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Caracterización de Genes de Resistencia en Enterobacterias Aisladas de Bacteriemias

Disertación previa a la obtención del título de Licenciada en Ciencias Biológicas

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Certifico que la disertación de la Licenciatura en Ciencias Biológicas de la Srta. María Fernanda Cadena Vizuete ha sido concluida con conformidad con las normas establecidas; por lo tanto, puede ser presentada para la calificación correspondiente.

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“There is only one corner of the universe

you can be certain of improving,

and that's your own self”

Aldous Huxley

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LISTA DE ABREVIATURAS

Abreviatura	Significado
µl	Microliter
µM	Micromolar
bp	Base pairs
°C	Degree Celsius
CLSI	Clinical and Laboratory Standards Institute
DNA	Deoxyribonucleic acid
ESBL	Extended Spectrum β-lactamases
MALDI-TOF	Matrix-Assisted Laser Desorption/Ionization–Time of Flight
MDR	Multi drug-resistant
MIC	Minimum Inhibitory Concentration
MILI	Motility, Indol, Lysine
MIO	Motility, Indol, Ornitin
MR/VP	Methyl Red and Voges Proskauer
PCR	Polimerase chain reaction
QRDR	Quinolone-resistance determining regions
TSB	Tryptic Soy Broth
TSI	Triple sugar iron slant agar
WHO	World Health Organization

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1. RESUMEN

Las cepas resistentes a la terapia antibiótica convencional (β-lactámicos, aminoglucósidos y quinolonas) son una importante amenaza para la salud pública en el mundo. La rápida evolución y propagación de la resistencia se facilita enormemente por la presencia de elementos genéticos que codifican esta resistencia como los integrones de clase 1. Una de las infecciones más graves provocadas por estas bacterias es la bacteriemia, que es la presencia de bacterias en el torrente sanguíneo. Por lo tanto, en este estudio se caracterizaron genes de resistencia a β-lactámicos, aminoglucósidos y quinolonas y la presencia de integrones clase 1. Se colectaron quinientas setenta y dos muestras de las cuales 24 fueron aislados de hemocultivos. Se obtuvieron 19 *E. coli*, 3 *K. pneumoniae*, 1 *S. marcescens* y 1 *E. cloacae*. Para los genes de resistencia a β-lactámicos, el gen bla_{CTX-M} fue el predominante presente en 9 aislados (37.5%), bla_{TEM} se detectó en 7 aislados (29.2%) y el gen bla_{SHV} en 3 aislados (12.5%). Sólo una cepa fue positiva para bla_{KPC}, y para todos los genes de tipo BLEE. Para los genes de resistencia a quinolonas, el gen *gyrB* se encontró en todos los aislados (100%), seguido de *parC* en 22 aislados (91.7%) y *qnrB* sólo presente en 4 aislados (16.7%). En cuanto a aminoglucósidos, el gen *aac(3´)* fue el de mayor incidencia en 9 aislados (37.5%), seguido por *aac(6´)* en 6 aislados (25%) y *ant(2´´)* solo presente en 4 aislados (16.7%). También se determinó la presencia de la región variable de integrones clase 1 en 5 aislados. Nuestro estudio demuestra que a pesar de que todos los aislados presentaban por lo menos un gen de resistencia, fenotípicamente se obtuvieron antibiotipos sensibles a la terapia antibiótica.

Palabras clave: bacteriemia, Enterobacteria, BLEE, carbapenemasa, resistencia bacteriana.

2. ABSTRACT

The strains resistant to conventional antibiotic therapy (β-lactams, aminoglycosides and quinolones) presents a major threat to public health worldwide. The rapid evolution and spread of resistance is greatly facilitated by the presence of genetic elements encoding this resistance as class 1 integrons. One of the most serious infections caused by these bacteria is bacteremia, which is the presence of bacteria in the bloodstream. Therefore, in this study resistance genes to β-lactams, aminoglycosides and quinolones and the presence of class 1 integrons were characterized. Five hundred seventy-two samples were collected of which 24 were isolated from blood cultures. 19 *E. coli*, 3 *K. pneumoniae*, 1 *S. marcescens*, and 1 *E. cloacae* were obtained. For β-lactam resistance genes, the bla_{CTX-M} gene was predominant, present in nine isolates (37.5%). bla_{TEM} were detected in 7 isolates (29.2%), and bla_{SHV} gene in 3 isolates (12.5%). Only one strain was positive for bla_{KPC}, and for all ESBL type genes. For quinolone resistance genes, the *gyrB* gene was found in all isolates (100%), followed by *parC* in 22 isolates (91.7%) and *qnrB* only present in 4 isolates (16.7%). As for aminoglycosides, the *aac(3')* gene had the highest incidence in 9 isolates (37.5%), followed by *aac(6')* in 6 isolates (25%) and *ant(2'')* only present in 4 isolates (16.7%). The presence of the variable region of class 1 Integrons in 5 isolates was also determined. Our study shows that even though all isolates showed at least one resistance gene, phenotypically antibiotypes sensitive to the antibiotic therapy were obtained.

Key words: bacteremia, Enterobacteriaceae, ESBL, carbapenemase, bacterial resistance.

3. MANUSCRITO PARA PUBLICACIÓN

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TÍTULO

Characterization of Resistance Genes in Enterobacteriaceae Isolated from Bacteremia

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Characterization of Resistance Genes in Enterobacteriaceae Isolated from Bacteremia

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Running Head: Resistance Genes in Enterobacteriaceae from Bacteremia

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Introduction

The Enterobacteriaceae family consists of Gram negative bacilli, which despite being part of our normal microbiota, can become opportunistic pathogens that cause a variety of infections in the urinary, respiratory, and circulatory systems. When the pathogen reaches the bloodstream, it can cause a serious infection called bacteremia that can negatively compromise the patient's prognosis (1, 2). A large number of bacteremia are caused by strains of *Escherichia coli* and *Klebsiella pneumoniae* resistant to conventional antibiotic therapy (2–5).

One of the major mechanisms of resistance is the production of Extended Spectrum β-lactamases (ESBLs). These ESBLs allow them to resist β-lactam antibiotics, such as penicillins, monobactams, and most cephalosporins. The most globally prevalent ESBLs are TEM (named in honor of the carrier patient Temoneira), SHV (contraction of sulfhydryl, one of the biochemical properties of this group) and CTX-M (reflecting its hydrolytic capacity against cefotaxime), the most prevalent worldwide (5–8).

Many ESBL-producing genes are associated with genes that confer resistance to other antibiotics such as aminoglycosides and quinolones (5, 9).

The most prevalent resistance mechanism between aminoglycosides is the production of aminoglycoside modifying enzymes (AME). There are three groups of these enzymes: aminoglycoside acetyltransferases (AACs), aminoglycoside phosphotransferases (APHs), and aminoglycoside nucleotidyltransferases (ANTs) (10, 11).

There are different resistance mechanisms to quinolone resistance: mutations in the quinolone resistance determining regions (QRDRs) found in DNA gyrase, encoded by gyrA and gyrB genes, topoisomerase IV, encoded by parC and parE genes, and the production of Qnr peptides, encoded by qnrA, qnrB, qnrS, qnrC, and qnrD genes, which protect DNA gyrase and Topoisomerase IV from quinolone inhibition (12–14).

Some bacteria are also capable of producing carbapenemases, enzymes that hydrolyse almost all β-lactam antibiotics, including carbapenems, a last resort antibiotic used to treat bacterial infections resistant to most antibiotics. One of the most effective and geographically distributed carbapenemases is the KPC type. This enzyme provides resistance to carbapenemes, extended-spectrum cephalosporins, aztreonam and even resistance to inhibitors such as clavulanic acid, and is easily spread in the nosocomial environment, causing high mortality when associated with bacteremia, especially *K. pneumoniae* producing KPC (15–17).

The increase of resistant bacteria is due to their ability to acquire resistance genes, particularly via horizontal transfer. This mechanism is mediated by different mobile genetic structures such as plasmids and transposons. Genetic elements transported by these structures are called integrons, that are genetic units characterized by their ability to capture and incorporate gene cassettes by site-specific recombination, facilitating the exchange of resistance genes between strains (18, 19).

Resistance to antibiotics is one of the main problems of current therapeutics, especially in South America, due to the indiscriminate use of antibiotics, inefficient

health systems, supplies of unsafe drugs, and other factors previously described (17). If urgent measures are not taken to combat this issue, it is believed that in about 10 years we will reach the post-antibiotic era, where common infections and minor injuries could be fatal (5, 8, 20).

This study characterized phenotypically and genotypically the resistance to beta-lactams, aminoglycosides and quinolones in enteric clinical isolates from patients treated at Hospital de Especialidades FF. AA. N°1 (HG1), Quito-Ecuador.

Materials and Methods

Bacterial isolates. Five hundred seventy-two isolates of different enterobacteriaceae were collected from June to August 2015. The isolates were donated by Hospital de Especialidades FF. AA. N°1 (HG1), Quito. Twenty-four of the total isolates were collected from blood stream samples. The species were identified by biochemical tests including: Simmons' citrate agar, triple sugar iron agar (TSI), methyl red and voges proskauer broth (MR/VP), motility, indol, ornitin medium (MIO), and motility, indol, lysine medium (MILI). The specie´s identifications were confirmed by Matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF). Samples of all isolates were stored frozen at -80°C and -20°C in tryptic soy broth (TSB) containing 30% glycerol for future research.

Antibiotic susceptibility testing. Susceptibility profile encompassing 19 antibiotics (Penicilins: Ampicillin (10µg), Ampicillin/Sulbactam(10/10µg), Piperacillin/Tazobactam (100/10µg); Cephalosporins: Cefazolin (30µg), Cefoxitin (30µg), Ceftazidime (30µg), Ceftriaxone (30µg), and Cefepime (30µg); Carbapenems: Ertapenem (10µg), and Imipenem (10µg); Aminoglycosides:

Gentamicin (10µg), Tobramycin (10µg), and Amikacin (30µg); Quinolones: Nalidixic acid (30µg), Norfloxacin (10µg), Ciprofloxacin (5µg), and Levofloxacin (5µg) was performed by the Kirby-Bauer disk diffusion susceptibility test according to the Clinical Laboratory Standard Institute (CLSI, 2015) guidelines and using the automatic identification and sensitivity testing system VITEK2® (21).

Detecting the presence of resistance genes. Genomic DNA was extracted using the commercial Kit Wizard® Genomic DNA Purification Kit (Promega, USA), following the manufacture´s specifications. To characterize the resistance genes, the genes *bla$_{SHV}$, bla$_{TEM}$, bla$_{CTX-M}$*, and *bla$_{KPC}$* were analyzed for β-lactam resistance, the genes *gyrB, qnrB*, and *parC* for quinolone resistance, and the genes *aac(3´), aac(6´),* and *ant(2´´)* for aminoglycoside resistance. PCR amplifications and protocols were carried out according to standard conditions with primers and different annealing temperatures listed in Table 1. The reaction mixtures were prepared in a final volume of 25µl, including 12.5µl of Go Taq Green Master Mix (Promega, USA), 10µM of each primer (Eurofins) and 1µl of genomic DNA. All PCR products were resolved in 1.5% UltraPure Agarose (Invitrogen). Amplicon sizes were measured using ImageLab Software V 4.0.1 (Bio-Rad Laboratories, Hercules, California). Purification and sequencing was performed at Macrogen, South Korea. The sequences were aligned and analyzed using the Geneious Pro 5.6.4 software.

Determining the location of resistance genes. The previous extracted DNA was used for the amplification. A first PCR was conducted to detect the integrase I gene, and for the positive isolates a second PCR was conducted to determine the variable region. The primers used are listed in Table 2. The reactions were prepared in a final volume of 25µl, including 12.5µl of Go Taq Green Master Mix

(Promega, USA), 10µM of each primer (Eurofins) and 2µl of genomic DNA. The first PCR protocol was programmed with the following parameters: an initial denaturation for 10 min at 96°C, 35 cycles of amplification with denaturation at 94°C for 45 seconds, annealing at 55°C for 45 seconds, and DNA extension at 72°C for 45 second, followed by a final extension at 72°C for 10 minutes. For the second PCR the parameters were: an initial denaturation for 5 min at 94°C, 35 cycles of amplification with denaturation at 94°C for 45 seconds , annealing at 60°C for 45 seconds, and DNA extension at 72°C for 5 min, followed by a final extension at 72°C for 10 minutes. All PCR products were resolved in 1.5% UltraPure Agarose (Invitrogen). Amplicon size was measured using ImageLab Software V 4.0.1 (Bio-Rad Laboratories, Hercules, California).

Results

Bacterial isolates and susceptibility testing. A total of 572 isolates were recorded of which 24 (4.2%) corresponds to bacteremia caused by Enterobacteriaceae. Of these, 19 were *E. coli,* three *K. pneumoniae*, one *E. cloacae* and one *S. marcescens.* Nine *E. coli* were ESBL and quinolone resistant, one *K. pneumoniae* produces carbapenemases, and othe *E. cloacae* and *S. marcescens* weren´t beta-lactamase producers*.* In the populations responsible for the bacteremia, isolates both highly resistant and sensitive to the antibiotics were recorded, as can be seen in the case of β-lactams in Figure 1. For quinolones, 8 (33.3%) isolates obtained were resistant to all the quinolones tested, one was resistant to ciprofloxacin, levofloxacin, and nalidixic acid; three were resistant to norfloxacin and nalidixic acid; four were resistant to nalidixic acid, and eight (33.3%) isolates were sensitive to all the quinolones (Table 3). Sixteen isolates were resistant to nalidixic acid, 11 to norfloxacin, and 15 to ciprofloxacin and

levofloxacin (Figure 2). For aminoglycosides all the isolates were sensitive for amikacin, of which 11 (45.8%) were resistant to tobramycin and 10 (41.7%) were resistant to gentamicin (Table 3, Figure 3).

Prevalence of resistance genes. For the ESBL type, the *bla*$_{CTX-M}$ gene was the predominant. A *bla*$_{CTX-M}$ gene was detected in 9 of 24 bacteremia (37.5%). Most were from the CTX-M-1 group (5 isolates) and CTX-M-9 group (4 isolates). The CTX-M-2 group was absent while the *bla*$_{TEM}$ was detected in 7 isolates (29.2%) and the *bla*$_{SHV}$ gene in 3 isolates (12.5%). Only one isolate was positive for *bla*$_{KPC}$, which was also the isolate that was positive for all the ESBL type genes. For Quinolone resistance, *gyrB* gene was present in all the isolates, *parC* in 22 isolates (91.7%), and *qnrB* in 4 isolates (16.7%). For aminoglycosides the most present gene was *aac(3´)* with 9 positive isolates (37.5%), next was *aac(6´)* with 6 positive isolates (25,0%), and then *ant(2´´)* with 4 positive isolates (16.7%).

Presence of class 1 Integrons. Integrase I was detected in 13 isolates (54.2%) of the 24 bacteria (Figure 4) and the variable region was detected in 5 of the 13 isolates (38.5%) with amplicons of 1200, 1500, and 2000 bp (Figure 5).

Discussion

Twenty-two of the isolates were phenotypically resistant to one or more antibiotics, but only two isolates were sensitive to all of them, even though all presented resistance genes. This could be because the genes are conferring a resistance that is not sufficient to resist the minimum inhibitory concentration (MIC) of each antibiotic, indicating that the antibiotic still work as a therapeutic option (11).

Only the *E. coli* strains produce ESBL, as they have already been established as the predominant species producing this enzymes (17, 22). *E. coli* also only contained one *bla* gene, bla_{CTX-M} type. As expected the predominant groups were CTX-M-1 and CTX-M-9, which are the most prevalent groups in Latin America (17, 22). The *K. pneumoniae* positive for bla_{KPC} was the only strain resistant to all the β-lactams including ertapenem and imipenem. Also this strain presents all of the ESBL type genes. Through sequencing, it was determined that the allele that was found was KPC2, the most common in South America. For the other *bla* genes, bla_{TEM} was present in six *E. coli* strains and one *K. pneumoniae* carbapenemase producer strain and bla_{SHV} was present only in *K. pneumoniae* strains. As previously described, bla_{CTX-M} has displaced bla_{SHV} and $bla_{TEM,}$ as bla_{CTX-M} is the dominant gene that have now grown to pandemic proportions in the continent (17, 22).

To determinate mutations at the quinolone-resistance determining region (QRDR), we searched for alterations in the DNA gyrase via the presence of *gyrB* and for topoisomerase IV via the presence of *parC*, because gene *gyrA* is homologous to *parC*, and *gyrB* is homologus to *parE*. Although *gyrB* was present in all the isolates, not all the bacteria were phenotypically resistant to quinolones. As previous work suggests, the place where the mutation takes place is very important to determine the degree of resistance (24). Also, there is high resistance to nalidixic acid because it was the first quinolone to be used clinically (14), so the bacteria has had more time to gain resistance to this antibiotic and now a simple mutation could be enough to induce a high level of resistance. However, for fluoroquinolones a simple mutation is not enough, since the antibiotic requires additional mutations in *gyrA* or in the topoisomerase IV genes. In regards to *parC*,

its presence is not decisive for quinolone resistance because in gram-negative bacteria, topoisomerase IV is a secondary target for quinolones. Still, in addition to other mutations, it could help build resistance in the isolates. Another way to build resistance to quinolones is the production of the Qnr protein that protects DNA gyrase and topoisomerase IV. The presence of this gene may not confer a high degree of resistance, but as it is transported by plasmids, so it is of very great clinical importance. The plasmid mediated quinolone resistance has been studied before because its transmission rate is high and can help not only to confer resistance to quinolones but to other antibiotics also (12–14, 23, 24). Aminoglycosides are the best therapeutic option for bacteremia because 13 (54.16%) are sensitive to all antibiotics tested and even 8 of these 13 don´t present any aminoglycosides resistant genes. In the case of Amikacin, it could be better to save it for highly resistant strains to prevent the emergence of resistance to it. The presence of aminoglycoside modifying enzymes is the most common resistance mechanism, as these enzymes don't let the antibiotic bind to the ribosome of the cell (24). Although the presence of one gene is not enough to visualize phenotypic resistance, it has clinical importance, as it may contribute to the development of full resistance. The data supports this statement since the majority of isolates that present two resistant genes are phenotypically resistant to tobramycin and gentamicin (10, 11, 17, 25).

Also there is a correlation between the production of ESBL and the resistance to aminoglycosides and trimethoprim-sulphamethoxazole because the plasmids carrying genes encoding ESBLs can also carry genes encoding resistant genes to this antibiotics. Also, the production of ESBL is related to quinolone resistance,

may be due to mutations in the multiple antibiotic resistance (*mar)* locus or outer-membrane protein alterations (36, 37).

It has been verified that there is an association between the antibiotics and the sensitivity and resistance of strains: antibiotics of third, fourth or even fifth generation recorded more susceptible strains. In the case of β-lactams, the number of resistant isolates decreases while the number of sensitive isolates increases as the generation of the antibiotic increases ($\chi2=69.888$, 9gl, $p=0.000$), as shown by the tendency lines in Figure 1. In regards to aminoglycosides, we can see in Figure 3 the same tendency as in β-lactams ($\chi2=14,924$, 2gl, $p=0.001$). For quinolones, the tendency for phenotypic resistance is similar (Figure 2), but as the three last antibiotics (Norfloxacin, Ciprofloxacin, and Levofloxacin) are of the same generation, the tendency is not significant ($\chi2=5,480$, 3gl, $p=0.140$).

Additionally, the prevalence of integrase class I is low, but the prevalence of the variable region is high. This difference may be due to the presence of unusual integrons class I that were not included in this study. Our study showed the presence of multi drug-resistant (MDR) bacteria, due to the co-resistance for β-lactams, quinolones and aminoglycosides. We hypothesize that this resistance has been caused by the selection of resistant strains due to the inappropriate use of antibiotics rather than through the dissemination of these genes by transferable genetic elements. Nevertheless, both mechanisms could have contributed to the dispersal of resistant strains into the nosocomial environment.

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Tables.

Table 1. Primers used in resistance identification

Gene	Sequence (5´-3´)	Size (bp)	Annealing temperature	Resistance	Ref.
bla_{SHV}	F: TGG TTA TGC GTT ATA TTC GCC R: GGT TAG CGT TGC CAG TGC T	862	55°C	cephalosporins, penicillins and aztreonam	(26)
bla_{TEM}	F: TTC TTG AAG ACG AAA GGG C R: ACG CTC AGT GGA ACG AAA AC	1150	58.5°C	cephalosporins, penicillins and aztreonam	(27)
$bla_{CTX-M-1}$	F: CTA TGG ATC CAT TTT GTA AAT AAT GT R: CTA TGG ATC CGA ACA GGA ACC ACG GA	1200	55°C	cephalosporins, penicillins and aztreonam	(28)
$bla_{CTX-M-2}$	F: ATG ATG ACT CAG AGC ATT CG R:TTA TTG CAT CAG AAA CCG TG	1200	62°C	cephalosporins, penicillins and aztreonam	(28)
$bla_{CTX-M-9}$	F: AAA AGG ATC CTG GGG TTG CTC TGT GG R: AAA AGG ATC CCG ATC AAC AAA ACC AG	1200	57°C	cephalosporins, penicillins and aztreonam	(28)
bla_{KPC}	F: TGT CAC TGT ATC GCC GTC R: CTC AGT GCT CTA CAG AAA ACC	1011	60°C	carbapenems	(29)
gyrB	F:TGA(C/T)GATGC(G/C/A)CG(T/C)GAAGG R:CGTACG(A/G)ATGTG(C/A)GA(G/A)CC	570	54°C	quinolones	(30)
qnrB	F: CGA CCT GAG CGG CAC TGA AT R: TGA GCA ACG ATG CCT GGT AG	515	58°C	quinolones	(31)
parC	F: AGC GCC TTG CGT ACA TGA AT R: GTG GTA GCG AAG AGG TGG TT	849	56°C	quinolones	(32)
aac(3´)	F: CGC TAA ACT CCG TTA CC R: TAG CAC TGA GCA AAG CC	196	55°C	aminoglucosides	(33)
aac(6´)	F: TAT GAG TGG CTA AAT CGA T R:CCC GCT TTC TCG TAG CA	395	55°C	aminoglucosides	(33)
ant(2´´)	F: CGT CAT GGA GGA GTTG GGA CT R: CGC AAG ACC TCA ACC TTT TC	304	55°C	aminoglucosides	(33)

Table 2. Primers used for detection of class 1 integrons and variable region

Primer	Sequence (5′- 3′)	Size (pb)	Gene	Target	Reference
intA	ATC ATC GTC GTA GAG ACG TCG G	892	intI1	Integrase	(34)
intB	GTC AAG GTT CTG GAC CAG TTG C				
5´CS	GGC ATC CAA GCA GCA AG		5´CS	Variable Region	
3´CS	AAG CAG ACT TGA CCT GA	>1500	3´CS		(35)

Table 3. Sensitivity/resistance phenotypes found in all the isolates

Isolate Code	Species	BLEE	AM	SAM	TZP	CFZ	FOX	CAZ	CRO	FEP	ETP	IPM	GEN	TOB	AMK	NAL	NOR	CIP	LVX	NIT	SXT
CB-QCA 3736	*E. coli*	-	R	R	R	S	S	S	S	S	S	S	S	S	S	R	R	S	S	I	R
CB-QCA 3737	*E. coli*	+	R	R	S	R	S	R	R	I	S	S	R	R	S	R	R	R	R	S	R
CB-QCA 3794	*E. coli*	-	R	R	R	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	R
CB-QCA 3796	*S. marcescens*	-	R	R		R	R	S	S	S	S		S	S	S	S	S	S	S	R	S
CB-QCA 3839	*E. coli*	-	R	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	R
CB-QCA 3840	*E. coli*	-	R	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	R
CB-QCA 3849	*E. cloacae*	-	R	R		R	R	S	S	S	S	S	S	S	S	R	S	S	S	R	S
CB-QCA 3908	*E. coli*	-	S	S	S	S	S	S	S	S	S	S	S	S	S	R	S	S	S	S	S
CB-QCA 3943	*E. coli*	+	R	R	S	R	S	R	R	R	S	S	R	R	S	R	R	R	R	S	R
CB-QCA 3949	*E. coli*	-	R	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	R
CB-QCA 3950	*E. coli*	-	R	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	R
CB-QCA 3951	*E. coli*	-	R	I	S	S	S	S	S	S	S	S	S	S	S	R	R	S	S	S	R
CB-QCA 3952	*E. coli*	+	R	R	I	R	R	I	R	I	S	S	S	R	S	R	R	R	R	S	R
CB-QCA 3963	*E. coli*	+	R	S	S	R	S	I	R	I	S	S	S	S	S	R	R	R	R	S	S
CB-QCA 4116	*E. coli*	+	R	R	S	R	S	R	R	I	S	S	R	R	S	R	S	R	R	S	R
CB-QCA 4117	*K. pneumoniae*	-	R	R	R	R	R	R	R	I	R	R	R	R	S	R	R	S	S	R	R
CB-QCA 4199	*E. coli*	+	R	I	S	R	S	R	R	I	S	S	R	R	S	R	R	R	R	S	R
CB-QCA 4200	*E. coli*	+	R	I	S	R	I	R	R	I	S	S	R	R	S	R	R	R	R	S	R
CB-QCA 4201	*E. coli*	+	R	I	S	R	I	R	R	I	S	S	R	R	S	R	R	R	R	S	S
CB-QCA 4216	*K. pneumoniae*	-	R	I	S	S	S	S	S	S	S	S	R	R	S	R	S	S	S	S	R
CB-QCA 4217	*K. pneumoniae*	-	R	I	S	S	S	S	S	S	S	S	R	R	S	R	S	S	S	S	R
CB-QCA 4233	*E. coli*	+	R	I	S	R	S	R	R	I	S	S	R	R	S	R	R	R	R	S	R
CB-QCA 4316	*E. coli*	-	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
CB-QCA 4317	*E. coli*	-	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S

AM, Ampicillin; SAM, Ampicillin/Sulbactam; TZP Piperacillin/Tazobactam; CFZ, Cefazolin; FOX, Cefoxitin; CAZ, Ceftazidime; CRO, Ceftriaxone; FEP, Cefepime; ETP, Ertapenem; IPM, Imipenem; GEN, Gentamicin; TOB, Tobramycin; AMK, Amikacin; NAL, Nalidixic acid; NOR, Norfloxacin; CIP, Ciprofloxacin; LVX, Levofloxacin.; NIT, Nitrofurantoina; SXT, trimethoprim-sulfamethoxazole. All isolates of Intermediate resistance were considered resistant.

Table 4. Presence/Absence of the resistance genes

Isolate code	Species	BLEE/ KPC	bla_{SHV}	bla_{TEM}	bla_{CTX-M}	bla_{KPC}	gyrB	qnrB	parC	aac(3´)	aac(6´)	ant(2´)
CB-QCA 3736	*E. coli*	-	-	-	$bla_{CTX-M-1}$	-	gyrB	-	parC	aac(3´)	-	-
CB-QCA 3737	*E. coli*	BLEE	-	-	$bla_{CTX-M-1}$	-	gyrB	-	parC	aac(3´)	aac(6´)	-
CB-QCA 3794	*E. coli*	-	-	bla_{TEM}	-	-	gyrB	-	parC	-	aac(6´)	-
CB-QCA 3796	*S. marcescens*	-	-	-	-	-	gyrB	-	-	-	-	-
CB-QCA 3839	*E. coli*	-	-	bla_{TEM}	-	-	gyrB	-	parC	-	-	-
CB-QCA 3840	*E. coli*	-	-	bla_{TEM}	-	-	gyrB	-	parC	-	-	-
CB-QCA 3849	*E. cloacae*	-	-	-	-	-	gyrB	-	parC	-	-	-
CB-QCA 3908	*E. coli*	-	-	-	-	-	gyrB	qnrB	parC	-	-	-
CB-QCA 3943	*E. coli*	BLEE	-	-	$bla_{CTX-M-1}$	-	gyrB	-	parC	aac(3´)	aac(6´)	-
CB-QCA 3949	*E. coli*	-	-	bla_{TEM}	-	-	gyrB	-	parC	-	-	-
CB-QCA 3950	*E. coli*	-	-	bla_{TEM}	-	-	gyrB	-	parC	-	-	ant(2´)
CB-QCA 3951	*E. coli*	-	-	-	-	-	gyrB	-	parC	-	-	-
CB-QCA 3952	*E. coli*	BLEE	-	-	-	-	gyrB	-	parC	-	aac(6´)	-
CB-QCA 3963	*E. coli*	BLEE	-	-	$bla_{CTX-M-9}$	-	gyrB	-	parC	-	aac(6´)	-
CB-QCA 4116	*E. coli*	BLEE	-	bla_{TEM}	-	-	gyrB	-	parC	aac(3´)	aac(6´)	-
CB-QCA 4117	*K. pneumoniae*	KPC	bla_{SHV}	bla_{TEM}	$bla_{CTX-M-1}$	bla_{KPC2}	gyrB	qnrB	-	aac(3´)	-	-
CB-QCA 4199	*E. coli*	BLEE	-	-	$bla_{CTX-M-9}$	-	gyrB	-	parC	aac(3´)	-	-
CB-QCA 4200	*E. coli*	BLEE	-	-	$bla_{CTX-M-9}$	-	gyrB	-	parC	aac(3´)	-	-
CB-QCA 4201	*E. coli*	BLEE	-	-	$bla_{CTX-M-9}$	-	gyrB	-	parC	aac(3´)	-	-
CB-QCA 4216	*K. pneumoniae*	-	bla_{SHV}	-	-	-	gyrB	qnrB	parC	-	-	ant(2´)
CB-QCA 4217	*K. pneumoniae*	-	bla_{SHV}	-	-	-	gyrB	qnrB	parC	-	-	ant(2´)
CB-QCA 4233	*E. coli*	BLEE	-	-	$bla_{CTX-M-1}$	-	gyrB	-	parC	aac(3´)	-	-
CB-QCA 4316	*E. coli*	-	-	-	-	-	gyrB	-	parC	-	-	-
CB-QCA 4317	*E. coli*	-	-	-	-	-	gyrB	-	parC	-	-	ant(2´)

Figures.

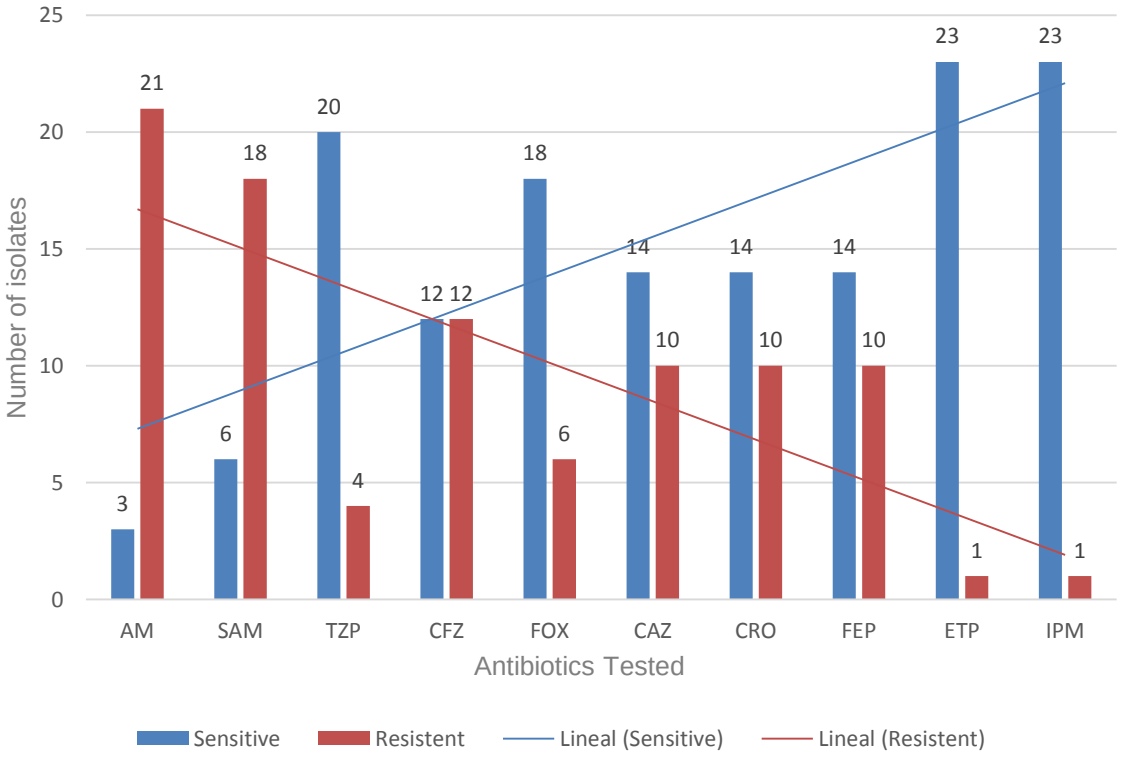

Figure 1. Number of sensitive and resistant isolates to each β-lactam antibiotic tested. AM, Ampicillin; SAM, Ampicillin/Sulbactam; TZP Piperacillin/Tazobactam; CFZ, Cefazolin; FOX, Cefoxitin; CAZ, Ceftazidime; CRO, Ceftriaxone; FEP, Cefepime; ETP, Ertapenem; IPM, Imipenem.

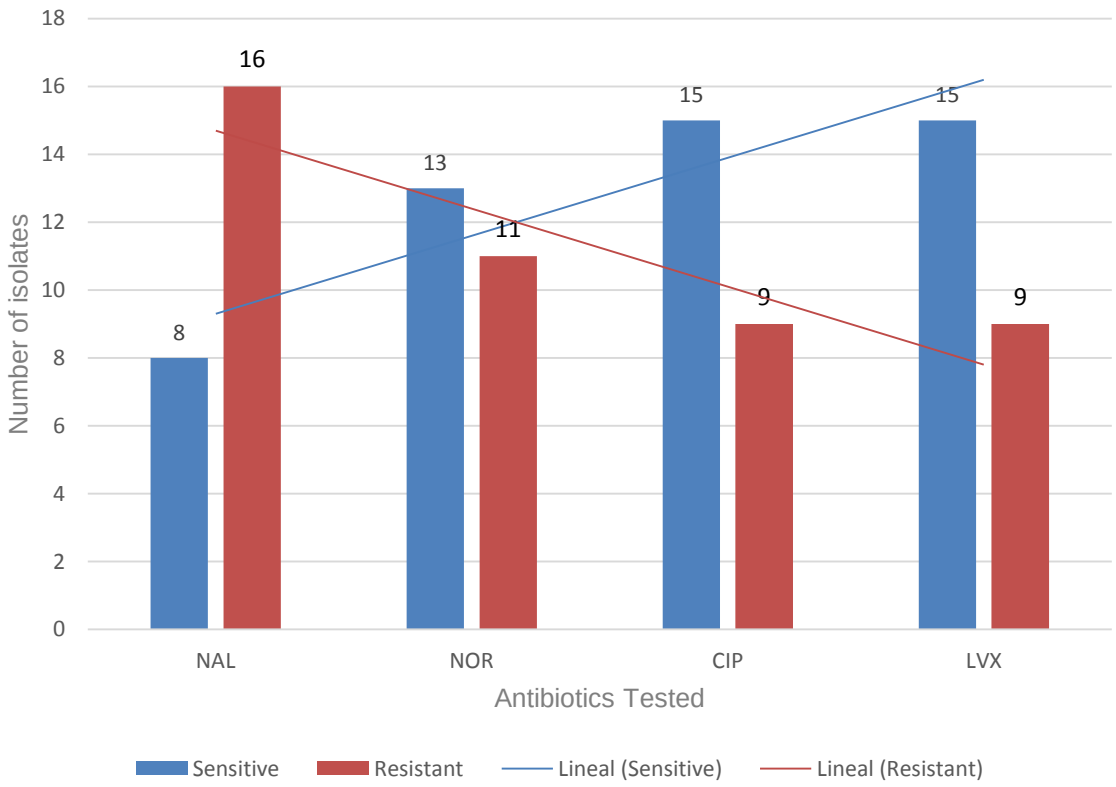

Figure 2. Number of sensitive and resistant isolates to each quinolone antibiotic tested. NAL, Nalidixic acid; NOR, Norfloxacin; CIP, Ciprofloxacin; LVX, Levofloxacin.

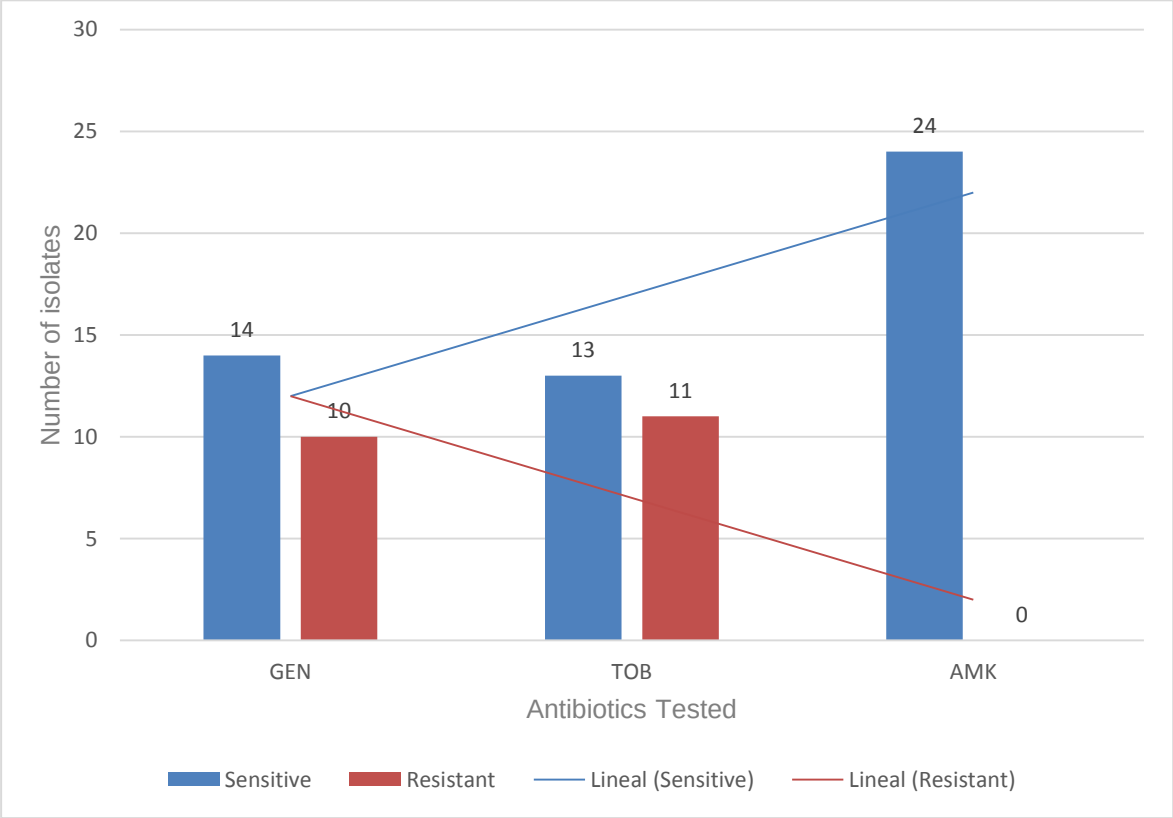

Figure 3. Number of sensitive and resistant isolates to each aminoglycoside antibiotic tested. GEN, Gentamicin; TOB, Tobramycin; AMK, Amikacin.

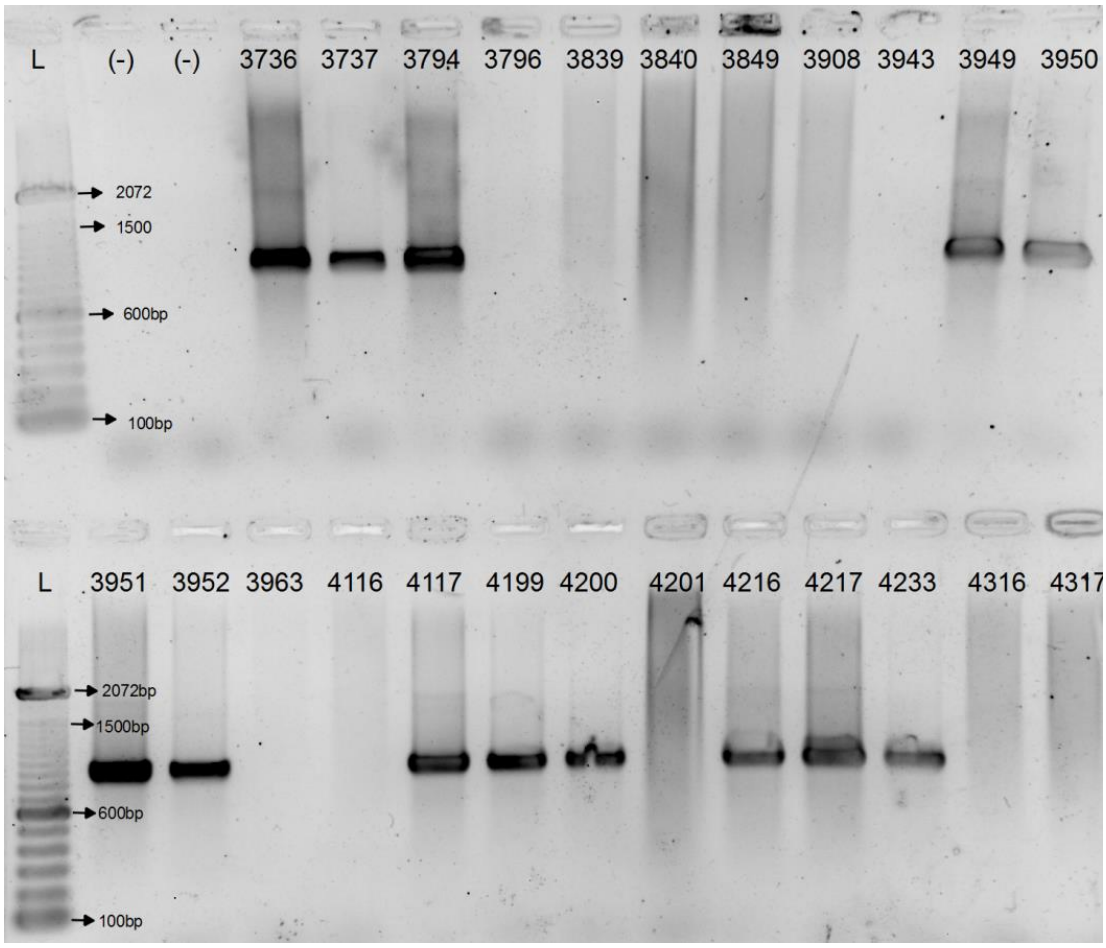

Figure 4. Agarose gel electrophoresis of amplified DNA fragments by PCR from Integron Class 1 regions. L, ladder; (-), negative control; each number is the isolate code.

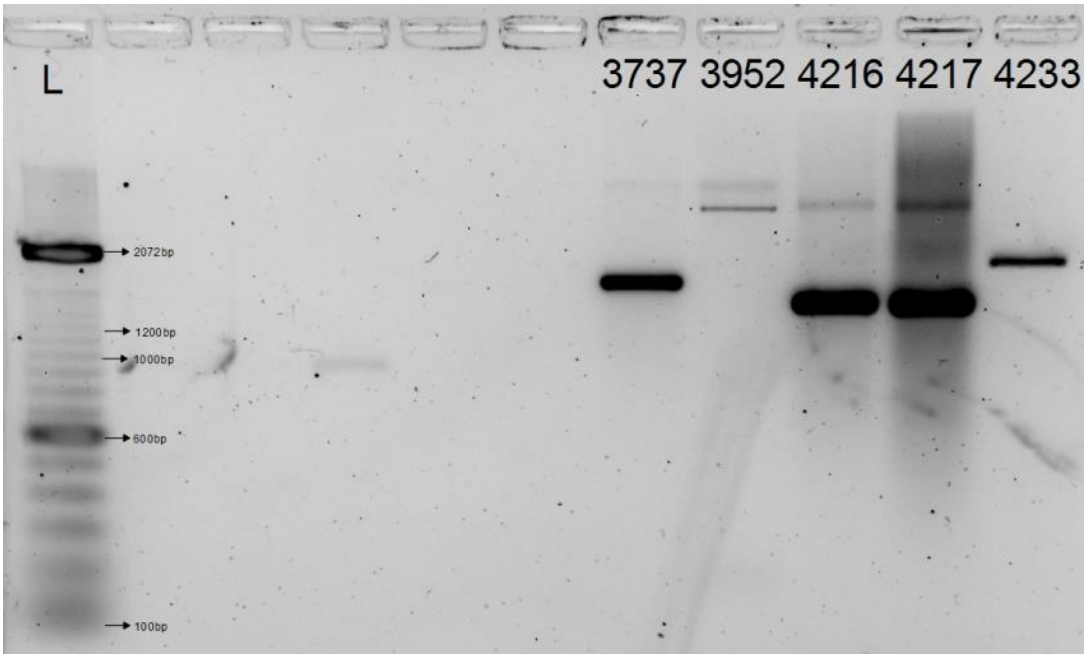

Figure 5. Agarose gel electrophoresis of amplified DNA fragments by PCR from the variable region. L, ladder; (-), each number is the isolate code.

4. NORMAS PARA PUBLICACIÓN

5. ANEXOS

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
1	CB-QCA 3628	26/05/2015	M	2	Secreción probable conducto	*P. aeruginosa*				S(16)	R(16)	R(16)	S(0,5)		S(10)				R(64)	
2	CB-QCA 3629	26/05/2015	M	44	Secreción Tibia	*E. coli*	POS	S(4)	R(64)	R^{+}(1)	S(0,25)	R(16)	R(4)		R(320)					
3	CB-QCA 3630	27/05/2015	F	13	orina	*E. coli*	S(14)	S(30)	R(14)		S(31)	S(19)		S(17)	S(18)		S(6)			
4	CB-QCA 3631	28/05/2015	F	65	orina	*E. coli*	S(20)	S(32)	R(19)		S(30)	S(23)		S(25)	S(32)		R(6)			
5	CB-QCA 3632	28/05/2015	F	33	orina	*E. coli*	S(22)	S(32)	S(33)		S(30)	S(23)		S(20)	R(6)		S(20)			
6	CB-QCA 3633	28/05/2015	F	73	orina	*E. coli*	S(4)	S(4)	S(32)	R^{+}(2)	S(0,5)/ S(0,25)	S(1)	R(4)	S(16)	R(320)					
7	CB-QCA 3634	28/05/2015	M	82	esputo	*E. coli*	S(32)	S(8)	R(64)	R^{+}(4)	S(0,25)	R(16)	R(4)		R(320)					
8	CB-QCA 3635	28/05/2015	F	31	orina	*E. coli*	S(2)		S(1)	S(1)	S(0,25)	R(16)	R(4)		R(320)					
9	CB-QCA 3636	28/05/2015	M	94	Secreción traqueal	*E. coli*	S(2)		S(1)	S(1)	S(0,25)	R(16)	R(4)		R(320)					
10	CB-QCA 3637	28/05/2015	F	89	Tejido	*P. aeruginosa*	S(8)			S(4)	S(2)	S(1)	S(0,25)							
11	CB-QCA 3638	28/05/2015	M	42	Lesión necrótica brazo izquierdo	*E. coli*	R(32)		S(1)	S(1)	S(0,25)	S(1)	S(0,5)		R(320)					
12	CB-QCA 3639	23/06/2015	F	49	orina	*E. coli*	S(15)	S(30)	S(34)		S(30)	S(24)		S(25)	S(30)		R(6)			
13	CB-QCA 3640	29/05/2015	M	64	orina	*E. coli*	R(10)	S(24)	R(10)		S(30)	R(6)		S(18)	S(28)		R(6)			
14	CB-QCA 3641	29/05/2015	F	74	orina	*M. morganii*	I(16)	S(4)	S(1)	S(1)	S(1)	S(1)	S(0,5)	R(128)	S(20)					
15	CB-QCA 3642	29/05/2015	M	44	Secreción de canal medular	*E. coli*	R(32)	S(4)	R(64)	R^{+}(1)	S(0,25)	R(16)	R(4)		R(320)					
16	CB-QCA 3643	29/05/2015	F	1.7	orina	*P.aerugiosa*		S(34)		S(32)	S(31)	S(22)	S(35)							
17	CB-QCA 3644	29/05/2015	M	77	Secreción traqueal	*K.pneumoniae*	S(2)		S(1)	S(1)	S(0,25)	S(1)	S(0,25)	I(64)	S(20)					
18	CB-QCA 3645	29/05/2015	F	83	orina	*E. coli*		S(25)	R(6)	S(15)	R(6)		R(6)	R(20)						
19	CB-QCA 3646	29/05/2015	F	2	orina	*E. coli*	S(20)	S(21)	R(16)	R(6)	R(16)		S(18)	S(32)						
20	CB-QCA 3647	29/05/2015	F	2	orina	*E. coli*	S(23)	R(6)		S(19)			R(13)							
21	CB-QCA 3648	30/05/2015	M	83	orina	*E. coli*		S(25)	R(6)	S(21)	S(21)		R(6)	R(10)						
22	CB-QCA 3649	30/05/2015	F	28	orina	*E. aerogenes*			S(4)	S(1)	S(1)	S(1)	S(1)	S(0,25)	R(128)					
23	CB-QCA 3650	30/05/2015	M	95	orina	*K.pneumoniae*		S(24)	R(6)	R(8)	S(22)		R(14)	S(28)						
24	CB-QCA 3651	30/05/2015	F	1	orina	*E. aerogenes*	S(24)	S(30)	S(36)		S(32)	S(24)		S(20)	S(15)		S(24)			
25	CB-QCA 3652	31/05/2015	H	1	orina	*E. coli*	I(16)	S(4)	S(1)	S(1)	S(0,25)	S(1)		S(16)	R(320)					
26	CB-QCA 3653	31/05/2015	F	1	orina	*E. coli*	R(32)	S(8)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)	S(16)	R(320)					
27	CB-QCA 3654	31/05/2015	H	16	Absceso	*E. coli*	R(32)	I(64)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)					
28	CB-QCA 3655	01/06/2015	M	55	orina	*E. coli*	S(18)	S(27)	S(32)	S(29)	S(30)	S(21)		S(21)			R(0)			
29	CB-QCA 3656	01/06/2015	M	50	orina	*E. coli*	R(9)	S(22)	R(6)		S(28)	S(20)		S(20)			R(6)			
30	CB-QCA 3657	01/06/2015	H	63	Absceso sub maxilar	*K. pneumoniae*	S(8)	I(32)	R(64)	R(2)	S(0,25)	S(1)	S(0,5)		R(320)					
31	CB-QCA 3658	01/06/2015	M	84	orina/esputo	*K. pneumoniae*														
32	CB-QCA 3659	02/06/2015	M	92	Secreción traqueal	*K.pneumoniae*	S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)					
33	CB-QCA 3660	01/06/2015	F	48	orina	*K.pneumoniae*	R(12)		R(6)	R(19)	S(26)	S(20)		R(14)	R(6)		R(6)			
34	CB-QCA 3661	01/06/2015	F	89	Aspirado traqueal	*K.pneumoniae*	R(32)	I(64)	R(64)	R(64)	S(0,25)	R(16)	R(4)		S(20)					
35	CB-QCA 3662	02/06/2015	M	5	orina	K. ozaenae	S(4)	S(4)	S(1)	S(1)	S(0,25)	S(1)		I(64)	S(20)					
36	CB-QCA 3663	02/06/2015	M	44	Muñón Tibia izq	*E. coli*	I(16)	S(4)	R(16)	R(1)*	S(0,25)	R(16)	R(4)		R(320)					
37	CB-QCA 3664	02/06/2015	M	79	orina	*E. coli*	S(16)	S(26)	R(16)	22	S(30)	S(18)		R(6)	R(6)		R(6)			
38	CB-QCA 3665	02/06/2015	F	6	orina	*E. coli*	S(22)					S(30)		S(20)	S(28)		S(20)			
39	CB-QCA 3666	02/06/2015	F	25	orina	*E. coli*	S(2)	S(4)	S(1)	S(1)	S(0,25)	R(16)	R(4)	S(16)	R(320)					
40	CB-QCA 3667	02/06/2015	F	36	orina	*E. coli*	R(32)	I(64)	R(64)	R(64)	S(0,25)	R(16)	R(4)	S(16)	R(320)					
41	CB-QCA 3668	02/06/2015	F	50	orina	*E. coli*	R(10)	R(20)	R(6)	R(16)	S(26)	R(6)		S(18)	R(6)		R(6)			

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
42	CB-QCA 3669	03/06/2015	F	69	orina	*E. coli*	S(20)	S(28)	S(30)	31	S(30)	S(20)		S(20)	R(6)		R(16)			S(25)
43	CB-QCA 3670	03/06/2015	F	70	orina	*E. coli*	R(12)	S(22)	R(20)	29	S(30)	S(20)		S(23)	R(6)		R(6)			26
44	CB-QCA 3671	03/06/2015	F	50	orina	*E. coli*	R(14)	S826)	S(27)	S(30)	S(28)	R(6)		S(25)	R(6)		R(6)			25
45	CB-QCA 3672	03/06/2015	F	96	orina	*E. coli*	R(6)	S(23)	R(10)	16	S(26)	S(18)		R(6)	R(6)		R(6)			13
46	CB-QCA 3673	03/06/2015	F	79	orina	*E. coli*	R(32)	S(4)	R(64)	R(1)*	S(0,5)	S(1)	R(4)	S(16)	R(320)	S(0,5)				
47	CB-QCA 3674	03/06/2015	M	68	Secreción mentón	*E. coli*	R(12)	S(22)	R(26)	S(28)	S(29)	S(19)	S(22)		S(25)		R(6)			R(6)
48	CB-QCA 3675	03/06/2015	F	66	orina	*E. coli*	R(32)	S(8)	R(8)	R(1)*	S(0,5)	S(1)	R(4)	S(16)	R(320	S(0,5)				
49	CB-QCA 3676	04/06/2015	M	4	orina	*M. morganii*						S(18)		R(10)	R(6)		R(6)			
50	CB-QCA 3677	10/06/2015	M	88	orina	*E. coli*	S(2)	S(4)				S(1)	S(0,25)	S(32)	S(20)		S(2)	S(4)	S(1)	
51	CB-QCA 3678	04/06/2015	F	5	orina	*E. coli*						S(21)		S(19)	S(22)		R(6)			
52	CB-QCA 3679	04/06/2015	F	1	orina	*E. coli*						S(20)		S(18)	R(6)		R(6)			
53	CB-QCA 3680	05/06/2015	F	8	orina	*E. coli*	R(10)	S(22)	R(6)			S(23)		S(23)	R(6)		R(6)			
54	CB-QCA 3681	05/06/2015	F	29	Secreción Vaginal	*E. coli*	R(6)		R(14)			S(22)	S(31)		S(23)		R(6)			
55	CB-QCA 3682	05/06/2015	M	82	orina	*E. coli*	R(6)	S(22)	R(6)		S(29)	R(12)		S(22)	R(6)		R(6)			
56	CB-QCA 3683	24/06/2015	M	76	orina	*E. coli*	R(32)	I(64)	R(64)		S(0,25)	R(16)	R(4)		S(20)	S(0,5)		R(64)		
57	CB-QCA 3684	05/06/2015	F	44	orina	*E. coli*	S(20)	S(30)	S(30)		S(30)	S(21)		S(25)	R(6)		R(6)			S(9)
58	CB-QCA 3685	05/06/2015	F	74	lesión región sacra	*E. coli*	R(32)	I(64)	R(64)		S(0,5)	R(16)	R(4)		R(320)	S(0,5)			R(16)	
59	CB-QCA 3686	05/06/2015	F	23	esputo	*K. pneumoniae*	S(18)					S(12)	S(25)		S(21)		R(6)			
60	CB-QCA 3687	05/06/2015	F	7	orina	*E. coli*	S(19)		S(24)			S(19)		S(19)	S(28)		S(17)			
61	CB-QCA 3688	05/06/2015	F	73	esputo	*E. coli*						S(20)	S(30)		S(25)		S(20)			
62	CB-QCA 3689	05/06/2015	F	37	orina	*E. coli*	S(20)		R(10)		S(30)	R(6)		S(24)	R(18)		R(6)			
63	CB-QCA 3690	05/06/2015	F	9	orina	*E. coli*	S(17)					S(21)		S(20)	S(21)		R(6)			
64	CB-QCA 3691	05/06/2015	F	58	orina	*E. coli*	R(11)	S(24)	R(10)		S(26)	R(1)		S(21)			R(6)			
65	CB-QCA 3692	05/06/2015	F	89	Secreción herida	*K. pneumoniae*	R(32)	I(32)	R(64)		S(0,25)	R(16)	R(4)		S(20)	S(0,5)			R(64)	
66	CB-QCA 3693	07/06/2015	F	41	orina	*E. coli*	R(32)	R(128)	S(1)			R(16)	S(0,25)	S(16)	R(32)		R(32)	S(4)	S(1)	
67	CB-QCA 3694	07/06/2015	F	88	orina	*E. coli*		R(128)	S(1)		S(0,25)	R(16)	R(4)	S(16)	R(320)			S(4)		
68	CB-QCA 3695	07/06/2015	F	78	orina	*M. morganii*	I(16)	S(4)	S(1)			S(1)	S(0,25)	S(16)	R(320)					
69	CB-QCA 3696	07/06/2015	M	74	orina	*E. coli*	S(2)		S(1)			S(1)	S(0,5)	S(16)	S(20)		S(20)	S(4)		
70	CB-QCA 3697	07/06/2015	M	68	Bilis	*E. coli*	S(2)	S(4)	S(1)			S(1)	S(0,25)		S(20)		S(2)	S(4)		
71	CB-QCA 3698	27/07/2015	F	2	orina	*E. coli*	S(17)	S(27)	S(30)		S(30)	S(22)		S(17)	R(6)		R(6)			S(25)
72	CB-QCA 3699	08/06/2015	F	44	Secreción Vaginal	*E. coli*	S(18)		S(34)			S(20)	R(6)		R(6)		R(6)			
73	CB-QCA 3700	08/06/2015	F	77	orina	*E. coli*	S(16)	S(22)	R(6)		S(30)	R(12)		S(12)	R(6)		R(6)		R(6)	
74	CB-QCA 3701	12/07/2015	M	83	Aspirado traqueal	*K. oxytoca*	S(25)	S(31)	S(30)		S(32)	S(21)		S(20)	S(20)		S(20)		S(31	
75	CB-QCA 3702	08/06/2015	F	36	Secreción Vaginal	*E. coli*	S(15)					S(22)	S(34)		R(6)		R(6)			
76	CB-QCA 3703	08/06/2015	F	31	orina	*E. coli*	S(20)	S(30)	S(10)		S(36)	S(24)		S(20)	R(6)		R(14)			S(26)
77	CB-QCA 3704	08/06/2015	F	83	orina	*E. coli*	S(25)	S(30)	S(30)		S(30)	R(6)		S(23)	S(25)		R(10)		S(30)	S(25)
78	CB-QCA 3705	08/06/2015	M	27	orina	*E. coli*														
79	CB-QCA 3706	08/06/2015	F	36	orina	*E. coli*	R(11)	S(33)	R(10)*		S(30)			S(20)	R(6)					S(25)
80	CB-QCA 3707	08/06/2015	F	6	orina	*E. coli*	S(15)		S(30)		S(30)	S(23)		S(18)	R(6)		R(6)			S827)
81	CB-QCA 3708	08/06/2015	F	1	orina (Gram +)	*E. coli*	S(15)	S(30)	S(30)		S(30)	S(24)		S(23)	R(6)		R(6)			
82	CB-QCA 3709	08/06/2015	M	84	Esputo	*E.aerogenes*														
83	CB-QCA 3710	08/06/2015	F	74	orina	*E. coli*														
84	CB-QCA 3711	16/07/2015	F	52	orina	*E. coli*	S(21)			S(30)	S(30)	S(22)		S(23)	R(6)		S(15)			
85	CB-QCA 3712	09/06/2015	M	89	orina	*E. coli*	R(10)	S(25)	R(10)		S(30)	S(28)			R(6)		R(6)			
86	CB-QCA 3713	10/06/2015	F	27	secreción vaginal	*E. coli*	I(16)		S(1)	S(1)	S(0,25)	S(1)	S(4)							
87	CB-QCA 3714	10/06/2015	F	80	orina	*E. coli*	R(32)	S(8)	R(64)	R(2)	S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)				
88	CB-QCA 3715	10/06/2015	F	71	orina	*E. coli*	R(13)	S(22)	R(6)		S(28)	R(6)		S(20)	R(6)		R(6)		R(10)	S(22)
89	CB-QCA 3716	27/07/2015	F	4	orina	*E.coli*	S(19)	S(30)	S(33)		S(32)	S(23)		S(20)	S(30)		R(6)			S(29)

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
90	CB-QCA 3717	10/06/2015	M	92	Aspirado traqueal	*E. faecalis*						5^{GYN}					S(2)	S	S(1)	
91	CB-QCA 3718	10/06/2015	F	71	Aspirado traqueal	*K. pneumoniae*	S(1)		S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)					
92	CB-QCA 3719	10/06/2015	M	57	Aspirado traqueal	*E. coli*	R(32)	S(8)	R(64)	R(2)	S(0,25)	S(1)	R(4)		R(320)					
93	CB-QCA 3720	10/06/2015	M	63	drenaje hepático	*E. coli*	R(32)		R(64)	R(64)	S(0,25)	R(16)	R(4)		R(320)					
94	CB-QCA 3721	10/06/2015	M	96	Aspirado traqueal	*E. coli*	S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		R(320)					
95	CB-QCA 3722	27/07/2015	F	74	orina	*K. pneumoniae*	S(16)	S(25)			S(29)	S(23)		S(18)	S(25)		R(6)			S(25)
96	CB-QCA 3723	10/06/2015	M	73	orina	*E. coli*	R(13)	S(25)	R(6)		S827)	R(8)		S(22)	R(6)		R(6)		R(17)	S(23)
97	CB-QCA 3724	10/06/2015	M	70	orina	*E. coli*	R(11)	R(18)	R(6)		S(27)	R(6)		S(21)	R(6)		R(6)		R(10)	S(20)
98	CB-QCA 3725	10/06/2015	F	21	Secreción Vaginal	*E. coli*	R(32)	S(4)	R(64)	R(2)	S(0,25)	S(1)	R(4)		S(20)					
99	CB-QCA 3726	10/06/2015	F	69	orina	*E. coli*	S(2)		S(1)	S(1)	S(0,25)	S(1)	S(0,25)	S(16)	S(20)					
100	CB-QCA 3727	11/06/2015	M	44	orina	*E. coli*	R(12)	S(23)	R(10)		S(28)	R(10)		S(21)	R(10)		R(10)		R(10)	S(22)
101	CB-QCA 3728	11/06/2015	M	97	orina	*K. pneumoniae*	R(10)	S(26)	R(10)		S(26)	R(10)		R(10)	R(10)		R(10)			
102	CB-QCA 3729	11/06/2015	M	86	orina	*E. coli*	R(10)		R(10)		S(28)	S(22)		S(28)	R(10)		R(10)		R(27)	25
103	CB-QCA 3730	12/06/2015	F	45	Secreción Vaginal	*E. coli*	R(10)	S(22)	R(10)		S(27)	R(10)	R(10)		R(10)		R(10)			24
104	CB-QCA 3731	12/06/2015	M	57	Aspirado nasofaríngeo	*E. coli*	R(32)	R(128)	R(64)	R(64)	S(0,25)	S(1)	R(4)		R(320)					
105	CB-QCA 3732	12/06/2015	F	9	orina	*E. coli*	R(10)	S(18)	R(10)		S(26)	R(10)		S(18)	R(13)		R(10)			S(22)
106	CB-QCA 3733	12/06/2015	F	1	orina	*K. pneumoniae*	R(10)	S(24)	R(10)		S(25)	R(10)		S(18)	R(10)		R(10)			
107	CB-QCA 3734	12/06/2015	F	76	esputo	*K. pneumoniae*	R(32)	I(32)	R(4)		S(0,25)	28	R(4)		R(320)		R(32)	R(64)		
108	CB-QCA 3735	12/06/2015	F	80	orina	*E. coli*	R(32)	S(4)	R(64)		S(0,25)	R(16)	R(4)	S(16)	S(20)		R(32)	R(64)		
109	CB-QCA 3736	12/06/2015	M	73	sangre	*E. coli*	R(32)	S(4)	R(64)		S(0,25)	R(16)	R(4)		R(320)		R(32)	R(64)		
110	CB-QCA 3737	12/06/2015	M	73	sangre	*E. coli*	R(32)	S(4)	R(64)		S(0,25)	R(16)	R(4)		R(320)		R(32)	R(64)		
111	CB-QCA 3738	14/06/2015	M	88	esputo	*K. pneumoniae*	R(32)	R(128)	R(64)		R(8)	R(16)								
112	CB-QCA 3739	14/06/2015	M	31	esputo	*K. pneumoniae*	R(32)	R(128)	R(64)		R(8)	R(16)	I(2)		R(320)		R(32)	R(64)	R(64)	
113	CB-QCA 3740	15/06/2015	F	47	orina	*E. coli*	R(10)	S(22)			S(29)	R(10)		S(21)	R(10)		R(10)			
114	CB-QCA 3741	15/06/2015	F	76	orina	*E. coli*	I(16)	S(4)			S(0,25)	S(1)	R(4)		R(320)		R(32)	R(64)		
115	CB-QCA 3742	15/06/2015	M	88	Secreción traqueal	*K. pneumoniae*	R(32)	R(128)	R(64)		R(16)	R(16)	I(2)		R(320)		R(52)	R(64)	R(16)	
116	CB-QCA 3743	16/06/2015	M	63	Secreción traqueal y esputo	*K. pneumoniae*	S(4)		S(1)		S(0,25)	S(1)	S(0,25)		S(20)		S(2)	S(4)		
117	CB-QCA 3744	16/06/2015	M	53	orina	*K. pneumoniae*	R(32)	R(128)	R(32)		S(0,25)	R(16)	R(4)	R(312)	R(320)		R(32)	R(64)		
118	CB-QCA 3745	17/06/2015	M	72	vesícula biliar	*E. coli*	S(2)		S(1)	S(1)	S(0,25)	S(1)	S(0,25)	S(16)	S(20)		S(2)	S(4)		
119	CB-QCA 3746	17/06/2015	M	79	orina	*E. coli*		S(21)	R(28)	S(23)	S(26)	R(10)		S(18)	R(10)		R(10)		S(26)	S(20)
120	CB-QCA 3747	17/06/2015	F	35	orina	*E. coli*						S(20)		S(20)	S(20)		R(12)			
121	CB-QCA 3748	17/06/2015	F	-	orina	*E. coli*						S(18)		S(18)	S(23)		S(18)			
122	CB-QCA 3749	17/06/2015	F	52	orina	*K. pneumoniae*			R(0)	R(10)	S(24)	S(20)		R(10)	R(10)				R(10)	
123	CB-QCA 3750	17/06/2015	F	66	orina	*E. coli*	R(19)		S(30)			R(10)		S(20)	R(10)		R(10)			
124	CB-QCA 3751	17/06/2015	F	35	orina	*E. coli*		S(22)	R(10)		S(30)	R(10)		S(20)	R(10)		R(10)		R(15)	
125	CB-QCA 3752	17/06/2015	F	25	orina	*E. coli*			S(30)			S(24)		R(10)	R(10)		R(10)		S(30)	
126	CB-QCA 3753	17/06/2015	M	62	Secreción traqueal	*E. cloacae*		S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)			R(64)		
127	CB-QCA 3754	17/06/2015	F	79	orina	*E. coli*						S(19)		S(18)	S(18)		R(10)			
128	CB-QCA 3755	17/06/2015	F	78	orina	*E. coli*	S(2)		S(1)	S(1)	S(0,25)	S(1)	R(4)	S(16)	S(20)		S(2)	S(1)		
129	CB-QCA 3756	18/06/2015	F	89	orina	*E. coli*	R(32)	R(128)	R(64)	R(32)	S(0,25)	S(1)	R(4)	S(16)	R(320)					
130	CB-QCA 3757	18/06/2015	F	33	orina	*E. coli*		S(28)	S(34)	S(35)	S(28)	S(20)		S(21)	S(20)		R(6)		S(29)	S(25)
131	CB-QCA 3758	18/06/2015	F	69	orina	*E. coli*	S(2)	S(4)	R(1)		S(0,25)	S(1)		I(64)	R(320)	S(0,5)				
132	CB-QCA 3759	18/06/2015	F	50	Absceso	*E. coli*		S(18)	S(30)	S(32)	S(28)		S(38)		S(26)		R(6)		S(26)	S(28)
133	CB-QCA 3760	18/06/2015	M	87	orina	*K. pneumoniae*	I(16)	S(8)	R(64)	R(2)	S(0,25)	S(1)	R(4)	I(64)	R(320)	S(0,5)				
134	CB-QCA 3761	18/06/2015	M	87	orina	*E. coli*	S(4)	S(4)	R(32)	R(1)	S(0,25)	S(1)	R(4)	R(128)	R(320)	S(0,5)				
135	CB-QCA 3762	18/06/2015	M	-	orina	*E. coli*	S(8)	S(4)	S(1)			S(1)		S(16)	S(20)			S(4)		

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
136	CB-QCA 3763	18/06/2015	M	87	Aspirado traqueal	*E. coli*	S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)	S(20)			S(2)			
137	CB-QCA 3764	18/06/2015	M	85	Aspirado traqueal	*P. aeruginosa*		S(8)		S(2)	S(2)	S(1)	S(0,25)		R(80)				S(4)	
138	CB-QCA 3765	18/06/2015	F	56	orina	*E. coli*		S(24)	S(34)	S(34)	S(40)	R(8)		S(20)	R(6)		R(6)		S(30)	S(26)
139	CB-QCA 3766	18/06/2015	F	42	Secreción Vaginal	*E. coli*			S(34)			S(21)	R(7)		R(6)		R(6)			
140	CB-QCA 3767	19/06/2015	M	75	orina	*E. coli*		S(28)	S(37)	S(39)	S(34)	S(25)		S(25)	R(6)		R(6)		S(34)	S(32)
141	CB-QCA 3768	19/06/2015	F	78	orina	*E. coli*		S(27)	R(6)	R(16)	S(30)	R(6)		S(25)	R(6)		R(6)		R(15)	S(25)
142	CB-QCA 3769	19/06/2015	F	74	orina	*E. coli*		S(34)	S(35)		S(28)	S(24)		R(16)	S(28)		S(20)		S(32)	
143	CB-QCA 3770	19/06/2015	F	70	orina	*E. coli*		R(38)	S(46)	S(40)	S(40)	S(34)		S(36)	R(6)		R(10)			S(34)
144	CB-QCA 3771	19/06/2015	M	85	orina	*E. coli*	R(32)	S(8)	R(64)	R(64)	S(0,25)	R(16)	R(4)	S(16)	R(320)					
145	CB-QCA 3772	27/07/2015	M	1	orina	*E. coli*	S(15)	S(22)	R(6)		S(30)	R(6)		S(22)	R(6)		R(6)			S(25)
146	CB-QCA 3773	19/06/2015	F	89	orina	*E. coli*		S(26)	R(10)	R(10)	S(3)	R(6)		S(21)	S(27)		R(8)		R(10)	
147	CB-QCA 3774	19/06/2015	F	82	orina	*E. coli*	S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	R(4)	R(128)	R(320)		S(4)			
148	CB-QCA 3775	19/06/2015	F	8	orina	*E. coli*		S(36)	R(10)		S(40)	R(10)		S(27)	S(34)		R(10)		R(15)	S(34)
149	CB-QCA 3776	20/06/2015	F	88	orina	*K. pneumoniae*	S(2)	S(4)	S(1)	S(1)	S(0,5)	S(1)	S(0,25)	R(128)						
150	CB-QCA 3777	27/07/2015	F	8	orina	*E. coli*	S(15)	S(28)	S(30)		S(22)	R(6)		S(22)	R(6)		R(6)			S(24)
151	CB-QCA 3778	20/06/2015	F	88	orina	*E. coli*		R(36)	S(40)	S(40)	S(30)	S(16)		S(17)	S(30)		R(8)		S(38)	S(34)
152	CB-QCA 3779	20/06/2015	M	81	orina	*E. coli*	S(4)	S(4)	R(64)	R(2)	S(0,25)	S(1)	R(4)	R(32)	R(20)					
153	CB-QCA 3780	20/06/2015	F	88	Aspirado traqueal	*E. coli*	I(16)	S(4)	S(1)			S(1)	S(0,25)	S(16)	R(320)			S(4)		
154	CB-QCA 3781	21/06/2015	M	23	L. pared abdominal	*E. aerogenes*	S(2)		S(1)	S(1)	S	S(1)	S(0,25)		R(320)					
155	CB-QCA 3782	21/06/2015	F	1	orina + GRAM	*E. coli*	I(16)	S(4)	S(1)	S(1)	S(0,25)	R(16)		S(16)	S(20)			S(4)		
156	CB-QCA 3783	22/06/2015	F	61	orina	*E. coli*			S(30)	S(32)	S(30)	S(26)		S(22)	S(25)		R(10)		S(30)	S(20)
157	CB-QCA 3784	22/06/2015	F	14	orina + GRAM	*E. coli*			S(35)		S(30)	S(23)		S(20)	S(29)		S(18)		S(30)	S(26)
158	CB-QCA 3785	22/06/2015	F	79	orina	*E. coli*		S(28)	S(30)		S(25)	S(22)		R(11)	S(25)		R(8)		S(26)	S(25)
159	CB-QCA 3786	22/06/2015	F	50	orina	*C. freundii*			R(20)		S(26)	S(23)		S(24)	R(6)		R(6)		R(14)	R(6)
160	CB-QCA 3787	22/06/2015	F	75	orina	*E. coli*		S(24)	R(8)		S(26)	S(20)		S(20)	R(11)		R(6)		R(8)	S(20)
161	CB-QCA 3788	22/06/2015	F	29	orina	*E. coli*	I(16)	S(4)	S(1)		S(0,25)	S(1)	R(4)	I(64)	R(320)					
162	CB-QCA 3789	22/06/2015	F	75	esputo	*C. freundii*														
163	CB-QCA 3790	22/06/2015	F	8	orina + GRAM	*K. pneumoniae*		S(32)	S(30)		S(27)	S(26)		R(12)	S(30)		R(6)		S(26)	S(26)
164	CB-QCA 3791	22/06/2015	M	57	orina	*K. ozaenae*			S(32)		S(32)	S(23)		S(24)	R(15)		R(6)		S(28)	S(23)
165	CB-QCA 3792	22/06/2015	M	49	orina	*E. coli*		S(21)	R(16)		S(26)	S(22)		R(6)			R(6)		R(8)	R(20)
166	CB-QCA 3793	22/06/2015	F	49	orina	*E. coli*		S(32)	S(34)		S(32)	S(22)		S(24)	S(16)		R(6)		S(30)	S(30)
167	CB-QCA 3794	17/06/2015	F	57	sangre	*K. pnuemoniae*	R(32)	R(28)	S(1)	S(1)	S(0,25)	S(1)			R(320)		R(32)		S(8)	
168	CB-QCA 3795	18/06/2015	F	66	Secreción traqueal	*E. coli*	I(4)	S(16)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)		R(32)			
169	CB-QCA 3796	19/06/2015	M	23	sangre	*S. marcescens*			R(64)	R(16)		S(1)	S(0,25)		S(20)			R(64)	R(64)	
170	CB-QCA 3797	19/06/2015	M	82	sangre	*P.aerogenes*		S(8)		S(2)	S(2)	S(1)	S(0,25)						S(4)	
171	CB-QCA 3798	22/06/2015	F	83	orina	*E. coli*		S(20)	R(18)	R(10)	S826)	R(8)		R(12)	R(6)		R6)		R(20)	
172	CB-QCA 3799	22/06/2015	F	83	orina	*K. pneumoniae*		R(19)	R(10)	R(18)	S(24)	R(18)		R(6)	R(6)		R(6)		R(13)	R(17)
173	CB-QCA 3800	23/06/2015	M	10	orina	*P. mirabilis*			S836)	S(34)	R(10)	S(24)			S(26)		S(20)			S(21)
174	CB-QCA 3801	23/06/2015	F	51	orina	*E. coli*		S(26)	R(14)		S(26)	S(20)		S(19)	S(23)		R(6)		R(10)	S(24)
175	CB-QCA 3802	23/06/2015	F	65	orina	*E. coli*		S(30)	S(32)	S(29)	S(30)	S(21)		S(19)	S(28)		S(19)		S(29)	S(26)
176	CB-QCA 3803	23/06/2015	F	5	orina	*C. freundii*					R(6)	S(20)		S(18)			R(6)			S(28)
177	CB-QCA 3804	23/06/2015	M	70	esputo	*E. coli*		S(26)	S(28)		S(22)	R(6)	R(30)		S(24)		R(6)		S(24)	R(6)
178	CB-QCA 3805	23/06/2015	F	42	orina	*E. coli*		S(29)	S(31)		S(28)	S(21)		S(20)	S(24)		R(13)		S(27)	S(34)
179	CB-QCA 3806	23/06/2015	M	25	orina	*K. pneumoniae*		S(25)	S(30)	S(30)	S(27)	S(20)		R(16)	R(6)		R(6)		S(26)	S(25)
180	CB-QCA 3807	23/06/2015	F	83	orina	*P. aeruginosa*	R(32)	I(64)	R(8)	R(1)	S(0,25)	S(1)	R(4)	R(512)	R(320)	S(0,5)				
181	CB-QCA 3808	23/06/2015	F	52	orina	*K. pneumoniae*	R(32)	R(128)	S(1)	S(1)	S(0,25)	S(1)	R(4)	R(256)	R(320)	S(0,5)				
182	CB-QCA 3809	23/06/2015	M	6	Secreción traqueal	*E. coli*		S(8)		S(2)	S(2)	S(4)	S(0,25)						S(4)	
183	CB-QCA 3810	23/06/2015	M	1	Secreción traqueal	*K. pneumoniae*	R(32)	S(16)	R(64)	R(4)	S(0,25)	R(16)			R(320)					

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
184	CB-QCA 3811	23/06/2015	M	33	Secreción traqueal	*E. coli*	S(4)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)					
185	CB-QCA 3812	24/06/2015	M	92	orina	*E. coli*		S(30)	S(40)		S(40)	S(22)		S(18)	S(16)		S(16)		S(32)	S(30)
186	CB-QCA 3813	24/06/2015	M	57	orina	*E. coli*	R(32)	R(128)	S(1)	I(4)	S(0,25)	S(1)	R(4)	I(64)	S(20)	S(0,5)				
187	CB-QCA 3814	24/06/2015	F	8	orina	*E. coli*		S(34)	S(36)			S(23)		S(25)	R(6)		R(12)		S(32)	S(30)
188	CB-QCA 3815	24/06/2015	F	28	orina	*E. coli*		S(28)	S(31)		S(26)	S(26)		S(20)	S(26)		R(15)		S(28)	S826)
189	CB-QCA 3816	24/06/2015	M	77	orina	*E. coli*		S832)	S(36)		S(32)	S(24)		R(10)	S(28)				S(32)	S(28)
190	CB-QCA 3817	24/06/2015	F	39	orina	*E. coli*		S(26)	S(32)		S(10)	R(6)		S(24)	S(18)		R(6)		S(30)	S(25)
191	CB-QCA 3818	25/06/2015	M	1	orina	*E. coli*		S(26)	R(15)		S(28)	R(10)		S(20)	R(6)		R(6)		R(6)	S(23)
192	CB-QCA 3819	25/06/2015	M	50	orina	*E. coli*	R(32)	S(8)	R(64)	R(1)	S(0,25)	S(1)	R(4)	S(16)	R(320)	S(0,5)				
193	CB-QCA 3820	25/06/2015	F	95	orina	*P. mirabilis*		S(30)	S(35)		S824)	S(21)		R(6)	R(6)		R(10)		S(24)	S(20)
194	CB-QCA 3821	25/06/2015	F	50	orina	*E. coli*		S(30)	S(34)		S(32)	R(8)		S(22)	R(6)		R(14)		S(30)	S(24)
195	CB-QCA 3822	26/06/2015	F	36	orina	*K. oxytoca*		S(25)	S(29)		S(25)	S(18)		S(10)	S(23)		S(18)		S(25)	S(22)
196	CB-QCA 3823	26/06/2015	F	24	orina	*E. coli*	R(6)	S(26)	S(31)	S(27)	S(28)	S(20)		S(21)	S(22)		R(6)			S(24)
197	CB-QCA 3824	26/06/2015	F	29	orina	*E. coli*	R(10)	S(25)	S(29)		S(28)	S(19)		S(19)	R(6)		R(6)		S(26)	S(22)
198	CB-QCA 3825	26/06/2015	F	49	orina	*E. coli*	S(22)	S(30)	S(32)		S(30)	S(22)		S(21)	R(6)		S(20)		S(30)	S826)
199	CB-QCA 3826	26/06/2015	M	43	Secreción brazo	*E. coli*		S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,5)		R(320)			S(8)		
200	CB-QCA 3827	26/06/2015	M	43	Secreción pierna der	*C. koseri*		S(16)	R(64)	I(4)	S(0,25)	R(16)	S(0,25)		R(320)					
201	CB-QCA 3828	26/06/2015	M	43	Secreción pierna izq	*C. koseri*		S(16)	R(64)	I(4)	S(0,25)	R(16)	S(0,25)		R(320)					
202	CB-QCA 3829	26/06/2015	F	81	orina	*E. coli*	S(8)		S(1)	S(1)	S(0,25)	S(1)	S(0,25)	S(16)	R(320)	S(0,5)		S(4)		
203	CB-QCA 3830	26/06/2015	F	83	orina	*E. coli*	I(16)	S(4)	S(1)	S(1)	S(0,25)	S(1)	R(4)	S(16)	R(320)	S(0,5)		S(4)		
204	CB-QCA 3831	26/06/2015	F	1	orina	*E.coli*						R(6)		S(21)	R(6)		R(6)			
205	CB-QCA 3832	26/06/2015	F	66	Secreción traqueal	*K. pneumoniae*		S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)					
206	CB-QCA 3833	26/06/2015	F	7	orina	*K. pneumoniae*			S(28)			S(20)		S(17)	R(6)		R(6)		S(23)	
207	CB-QCA 3834	26/06/2015	F	37	orina	*E. coli*		S(26)	S(30)		S(28)	S(20)		R(16)	S(21)		R(6)		S(28)	S(25)
208	CB-QCA 3835	26/06/2015	F	2	orina	*C. freundii*						S(24)		R(8)	R(6)		R(6)			S(23)
209	CB-QCA 3836	26/06/2015	F	4	orina	*E. coli*						S(20)		S(22)	R(6)		R(6)			S(23)
210	CB-QCA 3837	27/06/2015	M	59	orina	*E. coli*	S(4)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)	S(16)	R(320)	S(0,5)		S(4)		
211	CB-QCA 3838	25/06/2015	F	7	orina	*E. coli*	S(2)	S(4)	S(1)	S(1)		S(1)	S(0,25)	S(16)	S(20)	S(0,5)	S(2)	S(4)		
212	CB-QCA 3839	27/06/2015	M	59	sangre	*E. coli*	S(4)		S(1)		S(0,25)	S(1)	S(0,5)	S(16)	R(320)					
213	CB-QCA 3840	27/06/2015	M	59	sangre	*E. coli*	S(4)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		R(320)			S(4)		
214	CB-QCA 3841	28/06/2015	M	71	orina	*E. coli*	S(22)	S(32)	S(34)		S(32)	S(22)		S(24)	R(6)		S(18)			S(26)
215	CB-QCA 3842	28/06/2015	F	90	orina	*E. coli*	S(26)	S(32)	S(34)		S(36)	S(26)		S(24)	S(28)		S(26)			S(30)
216	CB-QCA 3843	28/06/2015	F	27	orina	*E. coli*	S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0.25)	S(16)	S(20)			S(4)		
217	CB-QCA 3844	28/06/2015	F	1	orina	*E. coli*		I(64)	S(1)	S(1)	S(0,25)	R(16)	S(0,25)	S(16)	R(320)	S(0,5)		S(8)		
218	CB-QCA 3845	29/06/2015	M	81	orina	*E. coli*	S(24)	S(27)	S(30)		S(30)	S(25)		S(23)	S(27)		R(12)			S(25)
219	CB-QCA 3846	29/06/2015	F	72	orina	*E. coli*	R(32)	S(8)	R(64)	R(64)	S(0,55)	R(16)	R(4)	S(16)	R(320)					
220	CB-QCA 3847	29/06/2015	F	4	orina	*E. coli*	R(12	S(25)	R(10)		S(30)	R(6)		S(23)	R(6)		R(6)			S(25)
221	CB-QCA 3848	29/06/2015	M	33	Aspirado traqueal	*K. pneumoniae*	S(4)		S(1)	S(1)	TRM	S(1)	S(0,25)							
222	CB-QCA 3849	29/06/2015	M	33	sangre	*Enterobacter*		S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0.25)		S(20)					
223	CB-QCA 3850	29/06/2015	M	33	Punta de catéter	*Enterobacter*			S(1)	S(1)	S(0,25)	S(1)	S(0.25)		S(20)					
224	CB-QCA 3851	29/06/2015	F	47	orina	*E. coli*	R(32)	R(128)	R(64)	R(1)	S(0,25)	S(2)	R(4)	S(16)	R(320)					
225	CB-QCA 3852	29/06/2015	F	-	orina	*E. coli*	R(6)	R(20)	S(30)		S(30)	S(20)		S(26)	S(27)		R(6)			S(21)
226	CB-QCA 3853	29/06/2015	F	5	orina	*E. coli*	R(32)	S(4)	S(1)		S(0,25)	S(1)	S(0,25)	S(16)	R(320)					
227	CB-QCA 3854	29/06/2015	F	2m	orina	*K. pneumoniae*	R(12)	S(24)	R(10)		S(27)	S(22)		R(14)	S(24)		R(6)			S(23)
228	CB-QCA 3855	29/06/2015	F	35	orina	*E. coli*	R(10)	S(23)	R(6)		S(24)	R(6)		S(25)	R(6)		R(6)			S(25)
229	CB-QCA 3856	30/06/2015	F	70	orina	*E. coli*	S(22)	S(30)	S(32)		S(30)	S(25)		S(25)	S(28)		S(20)			S(27)
230	CB-QCA 3857	30/06/2015	M	74	orina	*E. coli*	S(15)	S(22)	S(32)		S(30)	S(25)		S(25)	S(24)		S(6)			S(30)

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No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
231	CB-QCA 3858	30/06/2015	F	65	orina	*E. coli*	R(13)	S(30)	S(34)		S(30)	R(6)		S(22)	R(10)		R(6)			S(28)
232	CB-QCA 3859	30/06/2015	M	74	orina	*E. coli*	R(10)	S(25)	R(10)		S(30)	R(6)		S(21)	R(6)		R(6)			S(29)
233	CB-QCA 3860	30/06/2015	M	32	absceso anal	*E. coli*	R(32)	S(8)	R(64)	R(2)	S(0,25)	S(1)	R(4)		R(320)					
234	CB-QCA 3861	30/06/2015	F	87	herida	*E. coli*	R(14)	S(25	R(12)	S(22)	S(32)	R(6)	R(6)		R(6)		R(6)			S(25
235	CB-QCA 3862		F	-	orina	*E. coli*	S(19)	S(32)	S(34)		S(36)	S(26)		S(28)	S(20)		R(6)			S(28)
236	CB-QCA 3863	08/07/2015	F	48	orina	*E. coli*		S(24)	R(12)		S(27)	S(21)		S(20)	R(6)		R(6)			26
237	CB-QCA 3864	08/07/2015	F	4	orina	*E. coli*	S(16)	S(28)	S(32)		S(30)	S(22)		S(20)	S(26)		R(6)			S(26)
238	CB-QCA 3865	08/07/2015	F	80	orina	*E. coli*														
239	CB-QCA 3866	08/07/2015	F	95	orina	*E. coli*	S(27)	S(31)	S(35)		S(30)	S(22)		S(21)	S(30)		R(6)			S(27)
240	CB-QCA 3867	08/07/2015	F	45	orina	*K. pneumoniae*	S(2)		S(1)		S(0,25)	S(1)	S(0,25)	S(32)	S(20)					
241	CB-QCA 3868	08/07/2015	F	73	orina	*E. coli*	R(6)	S(28)	R(8)		S(30)	R(6)		R(16)	R(6)		R(6)			S(22)
242	CB-QCA 3869	08/07/2015	M	1	orina	*P. mirabilis*	S(20)	S(30)	S(25)		S(22)	S(22)		R(6)	R(6)		S(25)			
243	CB-QCA 3870	08/07/2015	F	66	esputo	*K. oxytoca*	S(8)		S(1)		S(0,25)	S(1)	S(0,25)	S(32)	S(20)					
244	CB-QCA 3871	08/07/2015	F	1	orina	*E. coli*	S(2)		S(1)	S(1)	S(0,25)	S(1)		S(16)	S(20)					
245	CB-QCA 3872	08/07/2015	F	80	flictema	*K. pneumoniae*	S(8)		S(1)	S(1)	S(0,25)	S(1)	S(0,25)	S(20)						
246	CB-QCA 3873	08/07/2015	F	20	orina	*E. coli*		R(18)	R(17)		S(26)	S(20)		S(18)	R(6)		S(17)			20
247	CB-QCA 3874	08/07/2015	F	42	orina	*E. coli*	S(22)	S(30)	S(34)		S(30)	S(24)		S(22)	S(24)					S(26)
248	CB-QCA 3875	08/07/2015	F	32	orina	*E. coli*		S(26)	S(28)		S(33)	S(20)		S(20)	R(6)		R(6)			S(18)
249	CB-QCA 3876	09/07/2015	F	23	orina	*E. coli*	S(21)	S(30)	S(31)		S(38)	S(20)		S(18)	R(6)		R(6)			
250	CB-QCA 3877	09/07/2015	F	78	orina	*E. coli*		S(23)	R(6)		S(30)	R(6)		S(23)	R(6)		R(6)			S(25)
251	CB-QCA 3878	09/07/2015	M	72	orina	*E. coli*	S(18)	S(26)	S(30)		S(30)	R(6)		S(19)	R(6)		S(15)			S(27)
252	CB-QCA 3879	09/07/2015	M	45	orina	*K. pneumoniae*	S(4)		S(1)		S(0,25)	S(1)	S(0,25)	R(256)	S(20)					
253	CB-QCA 3880	09/07/2015	F	9	orina	*E. coli*		S(20)			S(30)	R(10)		R(15)	R(16)		R(6)			S(27)
254	CB-QCA 3881	09/07/2015	F	8	orina	*E. coli*	S(18)	S(20)			S(30)	S(23)		S(20)	S(25)		R(6)			
255	CB-QCA 3882	09/07/2015	M	87	Secreción traqueal	*P. putida*		S(8)		S(8)	S(1)	S(4)	S(0,5)						S(4)	
256	CB-QCA 3883	09/07/2015	M	68	Absceso	*P. aeruginosa*		R(128)		R(32)	R(16)	S84)	R(4)						R(6)	
257	CB-QCA 3884	09/07/2015	F	92	orina	*E. coli*	S(20)	S(20)	S(30)		S(30)	S(20)		S(20)	R(6)		R(6)			
258	CB-QCA 3885	09/07/2015	F	41	orina	*E. coli*	S(15)	S(28)			S(30)	S(20)		S(20)	R(6)		R(6)			
259	CB-QCA 3886	10/07/2015	M	37	orina	*E. coli*	S(16)	S(26)	S(30)		S(32)	S(83)		S(22)	R(6)		R(6)			S(25)
260	CB-QCA 3887	10/07/2015	F	54	orina	*E. coli*	R(12)	S(36)	S(34)		S(30)	R(6)		S(25)	S(26)		R(10)			S(25)
261	CB-QCA 3888	10/07/2015	F	71	orina	*E. coli*	S(25)	S(28)	S(30)		S(30)	S29)		R(6)	S(21)		S(21)			S(23)
262	CB-QCA 3889	10/07/2015	M	24	orina	*E. coli*	I(16)	54	R(64)		S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)			R(16)	
263	CB-QCA 3890	10/07/2015	F	30	orina	*E. coli*	R(12)	S(27)	S(30)		S(30)	S(26)		S(23)	R(6)		R(6)			S(27)
264	CB-QCA 3891	10/07/2015	M	82	esputo	*E. coli*		S(8)	R(8)		S(0,25)	S(1)	R(4)		R(320)	S(0,5)			R(1)	
265	CB-QCA 3892	10/07/2015	F	81	orina	*E. coli*														
266	CB-QCA 3893	10/07/2015	F	46	orina	*E. coli*	R(6)	S(20)	S(30)		S(30)	S(21)		S(23)	R(6)		R(6)			S(38)
267	CB-QCA 3894	10/07/2015	F	78	orina	*E. coli*	S(16)	S(25)	S(28)		S(30)	S(14)		S(20)	R(6)		R(10)			S(22)
268	CB-QCA 3895	10/07/2015	F	88	orina	*E. coli*	R(10)		R(10)		S(27)	R(6)		S820)	R(6)		R(6)			
269	CB-QCA 3896	10/07/2015	F	1	orina	*E. coli*	S(18)	S(29)			S(28)	R(6)		S(18)	S(26)		R(6)			
270	CB-QCA 3897	10/07/2015	F	3	orina	*E. coli*	R(12)	S(23)	S(30)		S(30)	S(19		S(16)S(30)	R(6)		R(6)			
271	CB-QCA 3898	11/07/2015	F	80	orina	*E. coli*	S(18)	S(26)	S(35)		S(32)	S(18)		S(30)	S(28)		R(11)			S(32)
272	CB-QCA 3899	11/07/2015	F	84	orina	*E. coli*	R(32)	S(16)	R(64)		S(0,25)	R(16)	R(4)	S(32)	R(320)	S(0,5)			R(16)	
273	CB-QCA 3900	12/07/2015	M	89	orina	*E. coli*														
274	CB-QCA 3901	10/07/2015	M	68	sangre	*B. cepacia*									S(25)				S(30)	
275	CB-QCA 3902	12/07/2015	M	49	Líquido presucción	*E. cloacae*		S(4)	S(1)		S(0,25)	S(1)	S(0,5)	I(64)	S(20)			R(64)	S(1)	
276	CB-QCA 3903	12/07/2015	F	89	orina	*K. pneumoniae*	S(8)	S(8)				S(1)	S(0,5)	R(256)	S(20)			S(4)		
277	CB-QCA 3904	12/07/2015	M	86	Secreción faringea	*E. aerogenes*		R(128)	R(16)		S(1)	S(1)	S(0,25)		S(20)	S(0,5)				
278	CB-QCA 3905	12/07/2015	M	57	Aspirado traqueal	*E. aerogenes*		R(128)	R(16)		S(1)	S(1)	S(0,25)		S(20)	S(0,5)			R(64)	

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
279	CB-QCA 3906	13/07/2015	F	71	orina	*K. pneumoniae*	S(16)	S(25)	S(30)		S(29)	R(10)		S(17)	S(18)		R(6)			
280	CB-QCA 3907	13/07/2015	F	36	orina	*E. coli*	S(21)	S(28)	S(30)		S(30)	S(20)		S(20)	S(28)		S(19)			S(26)
281	CB-QCA 3908	13/07/2015	F	88	sangre	*E. coli*	S(23)		S(30)		S(30)	S(20)		S(20)	S(28)		S(18)			S(25)
282	CB-QCA 3909	13/07/2015	F	13	orina	*E. coli*	S(19)	S(27)	S(30)		S(29)	R(9)		S(17)	S(27)		R(6)			S(28)
283	CB-QCA 3910	13/07/2015	F	88	orina	*E. coli*			S(30)		S830)	S(28)		S(22)	S(25)		S(20)			S(28)
284	CB-QCA 3911	13/07/2015	F	80	orina	*E. coli*	R(6)	S(20)	R(10)		S(28)	R(6)		S(17)	R(6)					S(25)
285	CB-QCA 3912	13/07/2015	F	89	orina	*E. coli*	S(18)	S(24)	S(30)		S(29)	S(18)		S(17)	S(20)		R(10)			S(25)
286	CB-QCA 3913	13/07/2015	M	92	orina	*E. coli*	S(16)	S(20)	S(30)		S(30)	S(18)		S(17)	S(12)		R(6)			R(25)
287	CB-QCA 3914	13/07/2015	F	49	orina	*E. coli*	S(16)		S(30)		S(29)	S(18)		S(17)	S(28)		R(6)			
288	CB-QCA 3915	09/07/2015	M	43	Tejido Muscular der.	*K. pneumoniae*	R(32)	R(128)	R(64)	R(64)	S(0,25)	S(1)	R(4)		R(320)	R(2)			R(64)	
289	CB-QCA 3916	13/07/2015	F	75	orina	*E. coli*	R(14)	S(25)	S(0)		S(25)	R(6)		S(17)	R(13)		R(6)			S(25)
290	CB-QCA 3917	14/07/2015	M	10	orina	*K. pneumoniae*		S(26	R(9)		S(30)	S(21)		S817)	S(15)		R(6)			S(25)
291	CB-QCA 3918	14/07/2015	F	29	orina	*E. coli*	R(32)	S(8)	R(64)		S(0,25)	R(16)	R(4)	S(16)	S(20)	S(0,5)			R(16)	
292	CB-QCA 3919	14/07/2015	M	71	orina	*E. coli*	R(9)		S(29)		S(30)	S(18)		S(19)	S(17)					S(22)
293	CB-QCA 3920	14/07/2015	M	83	esputo	*E. aerogenes*	S(20)		S(30)		S(30)	S(22)	S(35)		S(25)		R(10)			R(25)
294	CB-QCA 3921	14/07/2015	M	79	orina	*E. coli*	S(16)	S(25)	S(30)		S(28)	S(20)		S(18)	R(10)		R(6)			S(27)
295	CB-QCA 3922	14/07/2015	F	2	orina	*K. oxytoca*		S(23)	S(30)		S(28)		S(26)	S(17)	S(23)		R(6)			S(25)
296	CB-QCA 3923	14/07/2015	M	43	orina	*E. coli*	I(64)	S(4)	S(1)		R(16)	S(0,25)	S(16)	S(20)	R(32)		R(32)	S(4)		
297	CB-QCA 3924	14/07/2015	F	43	orina	*E. coli*	S(15)	S(27)	S(33)			S(22)		S823)	R(6)		R(6)			
298	CB-QCA 3925	15/07/2015	F	70	orina	*E. coli*	S(16)	S(28)	R(12)		S(30)	R(10)		S(20)	S(17)		R(6)			S(20)
299	CB-QCA 3926	15/07/2015	F	80	orina	*E. coli*	R(10)	S(30)	S(30)		S(29)	S(21)		S(19)	S(27)		R(6)			S(27)
300	CB-QCA 3927	15/07/2015	F	86	orina		S(25)	S(33)	S(8)		S(30)	S(22)		S(26)	S(30)		R(14)			S(33)
301	CB-QCA 3928	15/07/2015	M	71	orina	*E. coli*	R(32)	S(8)	R(64)		S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)				
302	CB-QCA 3929	15/07/2015	M	44	orina	*E. coli*	S(22)	S(27)	R(11)		S(30)	S(20)		S(20)	R(6)		R(6)			S(25)
303	CB-QCA 3930	15/07/2015	F	3	orina	*E. coli*	R(32)	S(4)	S(1)		S(0,25)	S(1)	S(0,25)	I(64)	S(20)	S(0,5)		S(4)		
304	CB-QCA 3931	15/07/2015	M	23	Secreción de herida quirúrgica	*K. pneumoniae*	S(4)	S(4)	S(1)		S(0,25)	S(1)	S(0,25)		R(320)	S(0,5)	R(32)	S(4)		
305	CB-QCA 3932	16/07/2015	F	54	orina	*P. mirabilis*	S(26)					R(10)		R(10)	S(25)		S(25)			
306	CB-QCA 3933	16/07/2015	F	35	orina	*E. coli*	S(19)					S(20)		S(24)	S(24)		R(10)			
307	CB-QCA 3934	16/07/2015	F	30	orina	*E. coli*						S(21)		S(23)	S(27)		S(20)			
308	CB-QCA 3935	16/07/2015	F	10	orina	*E. coli*	R(32)	S(8)	S(1)		S(0,25)	S(1)		S(16)	S(20)		R(32)	S(4)		
309	CB-QCA 3936	16/07/2015	F	10	orina	*E. coli*	R(32)	S(8)	S(1)		S(0,25)	S(1)								
310	CB-QCA 3937	16/07/2015	F	64	orina	*E. coli*						S(22)		S(24)	S(29)		S(25)			
311	CB-QCA 3938	16/07/2015	F	2	orina	*E. coli*						S(20)		S(21)	S(27)		S(19)			
312	CB-QCA 3939	16/07/2015	M	100	orina	*E. coli*	R(10)	S(24)	R(10)		S(30)	S(24)		S(22)	R(10)		R(10)			26
313	CB-QCA 3940	16/07/2015	F	76	orina	*E. coli*				ctx 10							S(18)		ctx 27	
314	CB-QCA 3941	16/07/2015	F	57	Herida quirúrgica	*E. aerogenes*		S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)					
315	CB-QCA 3942	16/07/2015	F	4	orina	*E. coli*	S(2)		S(1)		S(0,25)	S(1)		I(64)	S(20)		S(8)	S(4)		
316	CB-QCA 3943	16/07/2015	F	76	sangre	*E. coli*	R(32)	S(8)	R(64)	R(64)	S(0,25)	R(16)	R(4)		R(320)			R(32)	R(64)	
317	CB-QCA 3944	16/07/2015	M	53	orina	*E. coli*	S(8)		S(1)		S(0,25)	S(1)	R(4)	R(4)	S(20)		R(32	S(4)		
318	CB-QCA 3945	17/07/2015	F	88	orina	*E. coli*	S(20)					S(21)		S(20)	S(26)		S(17)			
319	CB-QCA 3946	17/07/2015	M	57	orina	*E. cloacae*	R(10)	S(26)	S(30)		S(30)	S(20)		S(18)			R(10)			R(10)
320	CB-QCA 3947	17/07/2015	F	39	orina	*E. coli*	R(10)		R(10)		S(30)	R(10)		R(16)	R(12)		R(10)			25
321	CB-QCA 3948	17/07/2015	F	1	orina	*K. pneumoniae*	R(10)	S(25)	R(10)		S(30)	R(16)		S(18)	R(10)		R(10)			
322	CB-QCA 3949	17/07/2015	M	84	sangre	*E. coli*	S(8)				S(0,25)	S(1)	S(0,25)		R(320)			R(32)	S(4)	
323	CB-QCA 3950	17/07/2015	M	84	sangre	*E. coli*	S(8)				S(0,25)	S(1)	S(0,25)		R(320)			R(32)	S(4)	
324	CB-QCA 3951	17/07/2015	M	84	sangre	*E. coli*	S(8)				S(0,25)	S(1)	S(0,25)		R(320)			R(32)	S(4)	
325	CB-QCA 3952	17/07/2015	M	89	sangre	*E. coli*	R(32)	S(8)	R(8)	S(1)	S(0,25)	S(1)	R(4)		R(320)		R(32)	R(64)	S(4)	R(64)

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
326	CB-QCA 3953	17/07/2015	F	20	orina	*E. coli*						S(20)		S(24)	S(30)		S(24)			
327	CB-QCA 3954	18/07/2015	F	50	orina	*E. coli*	R(32)	S(4)	R(64)		S(0,25)	R(16)	R(4)	S(16)	R(320)			R(32)	R(64)	
328	CB-QCA 3955	18/07/2015	M	73	orina	*E. coli*	R(32)	S(8)	R(64)		S(0,25)	R(16)	R(4)	S(32)	R(320)			R(32)	R(64)	
329	CB-QCA 3956	17/07/2015	M	97	orina	*E. coli*	R(32)	S(8)	R(64)		S(0,25)	S(1)	R(4)	I(64)	R(320)	R(64)				
330	CB-QCA 3957	18/07/2015	F	50	orina	*E. coli*	S(21)	S(28)	R(10)		S(30)	S(22)		S(17)	R(13)		R(10)			
331	CB-QCA 3958	19/07/2015	F	36	orina	*E. coli*	R(10)					S(19)		S(22)	R(10)		R(10)			
332	CB-QCA 3959	20/07/2015	F	53	orina	*E. coli*			R(10)		S(34)	R(10)		S(24)	S(31)		R(10)			26
333	CB-QCA 3960	20/07/2015	F	51	orina	*E. coli*	S(2)				S(0,23)	S(1)	R(4)	S(32)	S(4)	S(4)				
334	CB-QCA 3961	20/07/2015	F	32	orina	*E. coli*	S(19)					S(20)		S(23)	R(10)		R(10)			
335	CB-QCA 3962	20/07/2015	F	95	orina	*E. coli*	S(20)					S(20)		S(23)	S(30)		R(10)			
336	CB-QCA 3963	19/07/2015	M	77	sangre	*E. coli*	S(8)	S(4)	R(64)		S(0,25)	S(1)	R(4)		S(20)			R(64)		
337	CB-QCA 3964	20/07/2015	F	90	orina	*E.coli*	S(20)					S(20)		S(22)	R(10)		R(10)			
338	CB-QCA 3965	21/07/2015	F	24	orina	*E.coli*						R(10)		S(23)	R(10)		S(21)			
339	CB-QCA 3966	21/07/2015	F	63	orina	*E.coli*	R(10)	S(29)	R(10)		S(29)	S(21)		S(17)	R(10)		R(10)			S(21)
340	CB-QCA 3967	21/07/2015	F	58	orina	*E.coli*						S829)		S(25)	S(24)		S(13)			
341	CB-QCA 3968	21/07/2015	F	35	quiste	*E.coli*	S(24)					S(20)	S(29)		R(10)		R(10)			
342	CB-QCA 3969	21/07/2015	F	43	orina	*E.coli*	S(18)					S(22)		S(21)	R(10)		R(10)			
343	CB-QCA 3970	21/07/2015	M	40	orina	*E.coli*	S(20)					S(29)		S(20)	S(25)		R(10)			
344	CB-QCA 3971	21/07/2015	F	49	orina	*E.coli*	R(10)	S(23)	R(10)		S(30)	S(19)		S(18)	R(10)		R(10)			
345	CB-QCA 3972	21/07/2015	F	80	orina	*E.coli*						S(20)		S(24)	S(24)		R(10)			
346	CB-QCA 3973	22/07/2015	F	89	orina							S(24)		S(20)	S(22)		S(23)			
347	CB-QCA 3974	22/07/2015	F	60	orina	*E.coli*	R(10)					S(22)		S(21)	S(22)		R(10)			
348	CB-QCA 3975	22/07/2015	F	12	orina	*E.coli*	R(10)					S(21)		S(20)	S(26)		R(10)			
349	CB-QCA 3976	23/07/2015	F	71	orina	*E. coli*	S(20)	S(26)	S(28)		S(30)			S(19)	S(27)		S(18)			S(23)
350	CB-QCA 3977	23/07/2015	F	52	orina	*E. coli*	R(6)	R(18)	R(6)		S(28)	R(6)		S(22)	R(6)		R(6)			S(24)
351	CB-QCA 3978	23/07/2015	M	100	orina	*E. coli*	R(15)	S(26)	R(6)		S(30)	S(22)		S(20)	R(6)		R(6)			
352	CB-QCA 3979	23/07/2015	F	89	Secreción traqueal			S(4)	S(1)	S(1)	S(0,23)	S(1)	S(0,23)		S(20)			R(64)		
353	CB-QCA 3980	23/07/2015	F	89	esputo	*E. cloacae*		S(4)	S(1)	S(1)	S(0,23)	S(1)	S(0,23)		S(20)			R(64)		
354	CB-QCA 3981	23/07/2015	F	87	orina	*E. coli*	R(8)	S(26)	R(6)		S(36)	R(6)		S(24)	R(6)		R(6)			S(28)
355	CB-QCA 3982	23/07/2015	F	95	orina	*E. coli*	R(12)	S(30)	S(30)		S(32)			S(22)	S(28)		R(6)			S(24)
356	CB-QCA 3983	23/07/2015	F	88	orina	*P. aeruginosa*		R(128)		S(8)	S(2)	S(1)	S(0,5)	R(512)				R(32)		
357	CB-QCA 3984	23/07/2015	F	39	orina	*E. coli*		S(24)	S(30)		S(28)			R(15)	R(6)		R(6)			S(24)
358	CB-QCA 3985	24/07/2015	F	65	orina	*E.coli*	S(20)	S(34)	S(30)		S(20)	S(22)		S(24)	S(30)		R(6)			S(26)
359	CB-QCA 3986	24/07/2015	F	89	orina	*E.coli*	R(32)	S(8)	S(1)		S(0,25)	R(16)	R(4)	S(16)	S(20)			S(4)		
360	CB-QCA 3987	24/07/2015	F	87	orina	*E.coli*	S(4)	S(4)	S(1)		S80,25)	S(1)	R(4)	R(128)	R(320)		S(8)	S(4)		
361	CB-QCA 3988	24/07/2015	M	82	orina	*E. coli*	R(32)	S(8)	R(64)		S(0,25)	S(2)	R(4)	S(16)	R(320)	S(0,5)				
362	CB-QCA 3989	24/07/2015	F	55	orina	*E. coli*	S(2)	S(4)	S(1)		S(0,25)	S(1)	S(0,25)	S(32)	S(20)	S(4)			S(2)	
363	CB-QCA 4029	24/07/2015	F	87	Aspirado traqueal	*K. pneumoniae*	S(8)	S(8)	S(1)				S(0,5)		S(20)					
364	CB-QCA 4030	24/07/2015	F	78	orina	*E.coli*	R(32)	S(8)	R(64)		S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)				
365	CB-QCA 4031	25/07/2015	F	16	orina	*E.coli*	R(32)	S(4)	R(64)		S(0,25)	S(1)	S(0,25)	I(64)	S(20)	S(0,5)		R(64)		
366	CB-QCA 4033	24/07/2015	F	87	Aspirado traqueal	*K. pneumoniae*	S(8)	S(8)	S(1)				S(0,5)		S(20)					
367	CB-QCA 4034	24/07/2015	F	78	orina	*E.coli*	R(32)	S(8)	R(64)		S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)				
368	CB-QCA 4035	25/07/2015	F	16	orina	*E.coli*	S(20)	S(30)	S(35)		S(29)	S(21)		S(22)	S(22)		R(6)			
369	CB-QCA 4036	27/07/2015	F	2	orina	*E.coli*	S(17)	S(27)	S(30)		S(30)	S(22)		S(17)	R(6)		R(6)			S(25)
370	CB-QCA 4037	27/07/2015	F	4	orina	*E.coli*	S(19)	S(30)	S(33)		S(32)	S(23)		S(20)	S(30)		R(6)			S(29)
371	CB-QCA 4038	27/07/2015	F	74	orina	*Klebsiella pneumoniae*	S(16)	S(25)			S(29)	S(23)		S(18)	S(25)		R(6)			S(25)
372	CB-QCA 4039	27/07/2015	M	1	orina	*E.coli*	S(15)	S(22)	R(6)		S(30)	R(6)		S(22)	R(6)		R(6)			S(25)

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
373	CB-QCA 4040	27/07/2015	F	8	orina	*E.coli*	S(15)	S(28)	S(30)		S(22)	R(6)		S(22)	R(6)		R(6)			S(24)
374	CB-QCA 4078	24/07/2015	M	80	esputo	*E. coli*														
375	CB-QCA 4079	25/07/2015	M	87	Secreciones	*E. coli*	R(32)	S(4)	R(32)	R(1)	S(0,25)	R(16)	S(0,25)		R(320)					
376	CB-QCA 4080	26/07/2015	M	17	Secreción traqueal	*K. pneumoniae*	S(8)	S(4)	S(1)		S(0,25)	S(1)	S(0,25)		S(20)		R(32)	S(4)		
377	CB-QCA 4081	26/07/2015	M	81	sangre	*P. aeruginosa*		R(128)		R(64)	S(1)	R(16)	R(4)						I(16)	
378	CB-QCA 4082	27/07/2015	F	9	orina	*E. coli*	S(22)	S(29)	S(34)		S(30)	S(24)		S(22)	S(25)		S(19)			S(26)
379	CB-QCA 4083	27/07/2015	F	83	Absceso	*E. coli*	R(32)	I(64)	R(8)		S(0,25)	S(1)	R(4)		R(320)					
380	CB-QCA 4084	27/07/2015	M	88	esputo	*K. pneumoniae*		S(25)	S(22)	S(30)	S(27)	S(21)	S(25)		S(22)		S(20)		S(27)	S(17)
381	CB-QCA 4085	27/07/2015	M	29	escaras húmedas brazo derecho	*P. aeruginosa*	S(4)	S(4)	S(1)		S(0,25)	S(1)	S(0,25)		S(20)		R(32)			
382	CB-QCA 4086	28/07/2015	F	14	orina	*E. coli*	R(0)	S(23)	S(33)		S(30)	R(6)		S(19)	R(6)		R(6)			S(25)
383	CB-QCA 4087	28/08/2015	F	51	orina	*E. coli*	R(32)	S(8)	S(1)		S(0,25)	S(1)	R(4)	R(128])	S(20)	S(0,5)				
384	CB-QCA 4088	28/07/2015	F	19	orina	*E. coli*	S(20)	S(33)	R(6)		S(30)	S(23)		R(14)	R(6)		R(6)			S(30)
385	CB-QCA 4089	28/07/2015	M	89	orina	*K. pneumoniae*	R(32)	R(128)	R(32)	R(8)	S(0,25)	S(1)	R(4)	R(512)	R(320)	S(0,5)				
386	CB-QCA 4090	28/07/2015	M	83	orina	*E. coli*	R(32)	I(32)	S(1)		S(0,25)	S(1)	R(4)	I(64)	S(20)					
387	CB-QCA 4091	28/08/2015	F	91	Aspirado traqueal	*E. cloacae*		S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)					
388	CB-QCA 4092	28/07/2015	F	18	orina	*E. coli*	S(26)	S(24)	S(36)		S(36)	S(25)		S(23)	S(30)		S(23)			S(29)
389	CB-QCA 4093	28/07/2015	M	87	orina	*K. pneumoniae*	R(6)	S(22)	R(6)		S(30)	R(6)		R(10)	R(6)		R(6)			S(27)
390	CB-QCA 4094	29/07/2015	F	85	orina	*E. coli*	I(16)	S(4)	S(1)		S(0,25)	S(1)	R(4)	S(16)	R(320)					
391	CB-QCA 4095	29/07/2015	M	83	orina	*E. aerogenes*														
392	CB-QCA 4096	29/07/2015	F	92	orina	*E. coli*	S(2)	S(4)	S(1)		S(0,25)	S(1)	R(4)	I(64)	S(20)		S(2)			
393	CB-QCA 4097	29/07/2015	M	79	orina	*P. aeruginosa*		S(30)		S(22)	S(30)	R(12)	S(31)						S(27)	
394	CB-QCA 4098	29/07/2015	F	7	orina	*E. coli*	S(16)	S(28)	S(31)		S(30)	S(21)		S(20)	S(30)		R(6)			S(28)
395	CB-QCA 4099	29/07/2015	M	85	Secreción traqueal	*K. oxytoca*		S(4)	S(1)		S(0,25)	S(1)	S(0,25)		S(20)	R(16)				
396	CB-QCA 4100	29/07/2015	F	13	oído medio	*P. aeruginosa*		S(37)		S(30)	S(27)	S(17)	S(35)						S(26)	
397	CB-QCA 4101	29/07/2015	M	3	orina	*E. coli*	R(6)		R(6)		S(34)	R(12)		S(31)			R(16)			
398	CB-QCA 4102	30/07/2015	F	29	Secreción Vaginal	*E. coli*														S(16)
399	CB-QCA 4103	30/07/2015	F	54	orina	*E. coli*	R(14)	S(24)	S(28)		S(30)	S(22)		S(21)	S(24)		R(6)		S(31)	S(24)
400	CB-QCA 4104	30/07/2015	F	48	orina	*E. coli*	S(19)	S(30)	S(34)		S(30)	S(20)		S(17)	R(6)		R(16)		S(24)	
401	CB-QCA 4105	30/07/2015	F	43	Secreción Vaginal	*E. coli*					S(24)									S(22)
402	CB-QCA 4106	30/07/2015	M	83	orina	*E. coli*														
403	CB-QCA 4107	30/07/2015	F	4	orina	*E. coli*														
404	CB-QCA 4108	31/07/2015	M	80	orina	*P. aeruginosa*	R(6)	S(30)	R(21)	S(20)	S(30)	S(18)	S(6)	R(6)	R(6)		R(6)		S(26)	R(12)
405	CB-QCA 4109	31/07/2015	F	13	orina	*M. morganii*	R(6)	S(18)	S(30)			S(24)		R(7)			R(6)			R(14)
406	CB-QCA 4110	01/08/2015	M	93	orina	*E. coli*	R(6)	S(8)	R(64)	R(4)	S(0,25)	R(16)	R(4)	R(16)	R(320)	S(0,5)				
407	CB-QCA 4111	07/08/2015	F	73	C. T. cadera	*K. pneumoniae*		R(128)	R(64)	R(4)	R(8)	R(16)	I(2)		R(320)					
408	CB-QCA 4112	02/08/2015	M	89	Absceso periescrotal	*C. freundii*														
409	CB-QCA 4113	02/08/2015	M	56	orina	*E. coli*	I(16)	S(4)	S(1)	S(1)	S(0,25)	S(1)	R(4)	R(128)	S(20)	S(0,5)		S(4)		
410	CB-QCA 4114	01/08/2015	F	73	orina	*E. coli*		R(128)	S(1)	S(1)	S(0,25)	R(16)	S(0,25)	S(16)	R(320)	S(0,5)		S(8)		
411	CB-QCA 4115	02/08/2015	F	47	orina	*E. coli*	R(15)	S(27)	S(30)		S(30)	R(6)		S(20)			R(6)			S(25)
412	CB-QCA 4116	02/08/2015	F	73	Hemocultivo	*E. coli*	R(32)	S(4)	S(1)	S(1)	S(0,25)	R(16)	S(0,25)		R(320)	S(0,5)		S(8)		
413	CB-QCA 4117	02/08/2015	M	49	Hemocultivo	*K. pneumoniae*	R(32)	R(128)	R(64)	R(32)	R(8)	R(16)	R(4)		R(320)					
414	CB-QCA 4118	03/08/2015	M	72	orina	*E. coli*	R(12)	S(24)	R(8)		S(30)	R(6)		S(22)			R(6)			S(25)
415	CB-QCA 4119	03/08/2015	M	73	orina	*E. coli*		S(8)	R(64)	R(4)	S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)				
416	CB-QCA 4120	03/08/2015	F	43	orina	*E. coli*	S(8)	S(4)	S(64)	R(4)	S(0,25)	S(1)	S(0,25)	I(64)	R(320)	S(0,5)				
417	CB-QCA 4121	03/08/2015	M		orina	*E. coli*	R(16)	S(30)	R(10)		S(33)	R(6)		S(25)			R(6)			S(25)
418	CB-QCA 4122	03/08/2015	M	85	orina		I(16)	S(4)	S(4)	S(1)	S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)				

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
419	CB-QCA 4123	30/07/2015	M	41	esputo			S(8)	R(64)	R(4)	S(0,25)	R(16)	R(4)		R(320)	S(0,5)				
420	CB-QCA 4124	30/07/2015	F	78	esputo			I(64)	R(64)	R(8)	S(0,25)	S(1)	R(4)		R(320)			R(64)		
421	CB-QCA 4125	31/07/2015	M	97	orina	*E. coli*	S(22)	S(26)	S(31)		S(30)	S(22)		S(19)			S(19)			S(22)
422	CB-QCA 4126	31/07/2015	M	73	orina		R(15)	S(25)	S(27)		S(27)	S(18)		S(17)			R(6)			S(24)
423	CB-QCA 4127	31/07/2015	F	44	orina		R(11)	S(21)	R(20)		S(32)	S(20)		S(23)			R(6)			S(24)
424	CB-QCA 4128	31/07/2015	F	70	orina	*E. coli*														
425	CB-QCA 4129	31/07/2015	M	76	orina			S(8)	R(64)	R(8)	S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)	R(64)			
426	CB-QCA 4179	02/08/2015	F	73	orina	*E. coli*	R(32)	S(4)	S(1)	S(1)	S(0,25)	R(16)	S(0,5)		R(320)	S(0,5)		S(8)		
427	CB-QCA 4180	03/08/2015	M	47	esputo	*E. aerogenes*	R(15)	S(30)	S(28)	S(20)	S(25)	S(22)			S(27)		R(16)			R(6)
428	CB-QCA 4181	03/08/2015	M	5m	orina	*S. marcescens*			S(1)	S(1)		S(1)		R(256)	S(20)	S(0,5)		R(64)		
429	CB-QCA 4182	04/08/2015	F	43	orina	*E. coli*	S(20)					S(19)		S(19)	S(25)		S(18)			
430	CB-QCA 4183	04/08/2015	F	49	Secreción Vaginal	*E. coli*	R(15)		S(26)			S(20)	S(30)		R(6)		R(6)			
431	CB-QCA 4184	04/08/2015	F	51	orina	*E. coli*	R(10)	S(21)	R(6)		S(31)	R(8)		S(21)	R(6)		R(6)			S(17)
432	CB-QCA 4185	04/08/2015	M	55	orina	*E. coli*	S(4)		S(1)	S(1)	S(0,25)	S(1)	R(4)	I(64)	S(20)	S(0,5)		S(4)		
433	CB-QCA 4186	04/08/2015	F	52	orina	*E. coli*		S(4)	R(64)	R(4)	S(0,25)	S(1)	R(4)	R(128)	S(20)					
434	CB-QCA 4187	04/08/2015	F	75	orina	*E. coli*	R(15)	S(25)	R(10)		S(30)	S(20)		S(20)	S(27)		R(6)			S(25)
435	CB-QCA 4188	04/08/2015	F	92	orina	*E. coli*	S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	R(4)	S(32)	S(20)	S(0,5)		S(4)		
436	CB-QCA 4189	04/08/2015	M	50	orina	*E. coli*	R(12)	S(25)	R(6)		S(30)	S(20)		S(20)	S(27)		R(6)			S(25)
437	CB-QCA 4190	04/08/2015	M	86	orina		R(128)	R(64)		R(4)	S(1)	R(16)	R(4)	R(256)	R(320)	S(0,5)				
438	CB-QCA 4191	04/08/2015	M	85	esputo	*E.coli*	S(17)					S(23)	S(35)		S(26)		R(6)			
439	CB-QCA 4192	04/08/2015	F	49	orina	*E. coli*	S(18)					S(20)		R(10)	S(24)		R(16)			
440	CB-QCA 4193	04/08/2015	F	57	orina	*K. pneumoniae*														
441	CB-QCA 4194	04/08/2015	M	47	esputo	*K. oxytoca*	S(17)					S(19)	S(30)				R(6)			
442	CB-QCA 4195	04/08/2015	M	65	esputo	*E. coli*	R(13)	S(21)	R(10)	R(17)	S(30)	R(6)	R(6)		R(6)		R(6)			S(23)
443	CB-QCA 4196	04/08/2015	F	52	orina	*E. coli*	S(18)		S(32)		S(30)	S(21)		S(18)	R(6)		R(6)			S(24)
444	CB-QCA 4197	04/08/2015	F	76	herida	*E. coli*		S(4)	S(1)	S(1)	S(0,25)	S(1)	R(4)		S(20)	S(0,5)		S(4)		
445	CB-QCA 4198	04/08/2015	F	43	orina	*E. coli*	S(20)	S(26)	S(30)		S(30)	S(20)		S(20)	R(8)		R(8)			S(23)
446	CB-QCA 4199	04/08/2015	F	37	sangre	*E. coli*		S(4)	R(64)	R(2)	S(0,25)	R(16)	R(4)		R(320)	S(0,5)				
447	CB-QCA 4200	04/08/2015	F	37	sangre	*E. coli*	I(16)	S(4)	R(64)	R(16)	S(0,25)	R(16)	R(4)		R(320)	S(0,5)			R(16)	
448	CB-QCA 4201	04/08/2015	F	37	sangre	*E. coli*		S(4)	R(64)	R(16)	S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)				
449	CB-QCA 4202	04/08/2015	F	37	Aspirado traqueal	*E. coli*		S(4)	S(1)	S(1)	S(0,25)	S(1)	R(4)		S(20)			S(4)	S(0,5)	
450	CB-QCA 4203	05/08/2015	F	75	orina	*E. coli*	S(18)	S(32)	S(38)		S(35)	S(23)		S(34)	R(6)		R(6)			S(30)
451	CB-QCA 4204	05/08/2015	M	69	orina	*E. coli*	R(14)	S(26)	R(12)		S(32)	R(8)		S(25)	R(6)		R(6)			S(22)
452	CB-QCA 4205	05/08/2015	F	29	orina	*E. coli*	S(17)	S(25)	S(32)		S(32)	S(23)		R(15)	S(25)		R(14)			S(22)
453	CB-QCA 4206	05/08/2015	M	36	orina	*E. coli*	R(6)		R(14)		S(30)	R(6)		S(20)	R(6)		R(6)			R(25)
454	CB-QCA 4207	05/08/2015	F	4	orina	*E. coli*	R(10)	S(27)			S(30)	R(12)		S(18)	R(6)		R(6)			S(22)
455	CB-QCA 4208	06/08/2015	F	74	orina	*E. coli*	R(12)	S(25)	S(28)		S(30)	S(20)		S(22)	R(6)		R(6)			
456	CB-QCA 4209	06/08/2015	F	82	orina	*E. coli*	S(17)	S(24)	S(30)		S(30)	S(25)		S(24)	R(6)		R(6)			
457	CB-QCA 4210	06/08/2015	F	73	orina	*K. pneumoniae*		R(128)	R(64)	R(8)	R(8)	R(16)	I(2)		R(320)				R(16)	
458	CB-QCA 4211	06/08/2015	M	36	orina	*E. coli*	R(12)		R(12)		S(30)	R(6)	R(6)		R(6)		R(6)			
459	CB-QCA 4212	06/08/2015	F	61	esputo	*E. coli*	R(10)					S(25)	S(30)		S(26)		R(12)			
460	CB-QCA 4213	07/08/2015	F	74	lesión herida	*E. coli*	R(10)	S(18)	R(8)		S(29)	R(6)			R(9)		R(6)			
461	CB-QCA 4214	06/08/2015	M	49	orina	*E. coli*	R(10)	S(26)	S(30)		S(30)	R(6)		S(21)	R(6)		R(6)			S(20)
462	CB-QCA 4215	06/08/2015	M	79	Aspirado traqueal	*E. coli*		S(8)	R(64)		S(0,25)	R(16)	R(4)	S(32)		S(0,5)			R(16)	
463	CB-QCA 4216	06/08/2015	F	1	Hemocultivo	*K. pneumoniae*	I(16)	S(4)	S(1)		S(0,25)	I(8)			R(320)	S0,5)	R(32)		S(1)	
464	CB-QCA 4217	06/08/2015	F	1	Hemocultivo	*K. pneumoniae*	I(16)	S(4)	S(1)		S(0,25)	I(8)			R(320)	S0,5)	R(32)		S(1)	
465	CB-QCA 4218	06/08/2015	F	63	orina	*E. coli*	S(22)	S(26)	S(30)		S(30)	S(23)		S(29)	R(14)		R(6)			S(25)
466	CB-QCA 4219	06/08/2015	M	68	orina	*K. pneumoniae*	R(10)	S(22)	S(30)		S(30)	R(6)		R(6)	R(6)		R(6)			
467	CB-QCA 4220	07/08/2015	M	49	orina	*E. coli*	R(32)	S(4)	S(1)		S(0,25)	R(16)	S(0,25)	S(16)	R(320)				S(1)	

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
468	CB-QCA 4221	07/08/2015	M	93	orina	*E. coli*	I(16)	S(4)	S(1)			S(1)	R(4)	S(16)	R(320)			S(4)		
469	CB-QCA 4222	07/08/2015	F	34	Secreción Vaginal	*E. coli*	R(12)		S(30)		S(30)	S(21)	S(35)		S(20)		R(10)			
470	CB-QCA 4223	07/08/2015	F	48	orina	*E. coli*	R(12)	S(25)	S(30)		S(30)	S(21)		S(19)	R(14)		R(6)			S(30)
471	CB-QCA 4224	07/08/2015	F	9	orina	*E. coli*	S(16)	S(25)	S(30)		S(30)	S(21)		S(22)	R(10)		R(6)			S(26)
472	CB-QCA 4225	07/08/2015	F	6	orina	*E. coli*	S(15)	S(28)	S(30)		S(30)	S(23)		S(18)	R(13)		R(6)			S(25)
473	CB-QCA 4226	07/08/2015	F	55	orina	*K. pneumoniae*	S(18)	S(25)			S(30)	S(22)		R(14)	S(25)		R(12)			R(5)
474	CB-QCA 4227	07/08/2015	F	19	orina	*E. coli*	S(15)	S(25)	S(30)		S(30)	S(21)		S(20)	S(16)		R(10)			
475	CB-QCA 4228	07/08/2015	M	41	orina	*E. coli*	S(8)	S(4)	R(64)		S(0,25)	S(1)	R(4)		R(320)	S(0,5)			R(16)	
476	CB-QCA 4229	07/08/2015	F	38	orina	*E. coli*	S(17)	S(28)	S(30)		S(29)	S(20)		S(20)	R(11)		R(6)			
477	CB-QCA 4230	07/08/2015	F	46	Secreción Vaginal	*E. coli*	S(19)		S(30)			S(18)	R(11)		R(9)		R(6)			
478	CB-QCA 4231	07/08/2015	F	59	orina	*E. coli*	S(17)	S(29)	S(34)		S(30)	R(6)		S(20)	R(6)		R(6)			S(25)
479	CB-QCA 4232	07/08/2015	M	46	Isopado rectal	*K. pneumoniae*														
480	CB-QCA 4233	07/08/2015	F	52	sangre	*E. coli*	R(32)	S(4)	R(64)	R(8)	S(0,25)	R(16)	R(4)		R(320)	S(0,5)			R(16)	
481	CB-QCA 4234	07/08/2015	F	7	orina	*P. mirabillis*	S(2)	S(4)				S(1)	S(0,25)	R(512)	S(20)		S(2)	S(4)		
482	CB-QCA 4235	07/08/2015	F	52	orina	*E. coli*	I(16)	S(4)	R(64)		S(0,25)	R(16)	R(4)	S(16)	R(320)	S(0,5)			R(16)	
483	CB-QCA 4236	07/08/2015	M	41	Sec. Perianal	*E. coli*	R(32)	R(128)	R(64)		S(0,25)	R(16)	R(4)		R(320)	S(0,5)			R(64)	
484	CB-QCA 4237	08/08/2015	F	54	orina	*E. coli*	R(12)	S(22)	R(10)		S(30)	S(21)		S(22)	S(25)					S(25)
485	CB-QCA 4238	08/08/2015	F	21	orina	*E. coli*	S(25)		S(20)		S(30)	S(22)		S(22)	S(20)		S(20)			
486	CB-QCA 4239	09/08/2015	F	80	orina	*K. pneumoniae*	S(2)	S(4)	S(1)			S(1)	S(0,25)	R(128)	S(20)		R(16)	S(4)		
487	CB-QCA 4240	09/08/2015	F	87	orina	*E. coli*	S(8)	S(8)				S(1)	R(4)	S(16)	R(320)		I(16)	S(4)		
488	CB-QCA 4241	13/08/2015	M	10	orina	*K. pneumoniae*	R(10)	S(29)	R(10)		S(25)	S(25)		S(20)	TRM		R(10)		R(10)	R(20)
489	CB-QCA 4242	13/08/2015	M	94	orina	*P. aeruginosa*		S(27)		S(25)	S(28)	R(10)	R(10)						S(26)	
490	CB-QCA 4243	14/08/2015	M	74	orina		S(17)		S(32)			S(22)		S(17)	TRM		R(10)			S(28)
491	CB-QCA 4244	14/08/2015	F	41	orina	*E. coli*	R(10)	S(22)	R(10)		S(30)	R(10)		S(23)	TRM		R(10)			
492	CB-QCA 4245	14/08/2015	F	76	orina	*E. coli*	R(10)	R(15)	R(10)		S(29)	R(10)		S(20)	TRM		R(10)			
493	CB-QCA 4246	14/08/2015	F	3	orina	*E. coli*	S(24)					S(24)		S(24)	TRM		R(10)			
494	CB-QCA 4247	14/08/2015	M	75	esputo	K. oxytoca	S(22)		S(30)		S(30)	S(20)			S(24)		R(10)			
495	CB-QCA 4248	14/08/2015	F	55	orina	*E. coli*	S(20)					S(20)	R(10)	R(10)	S(24)		S(20)			
496	CB-QCA 4249	14/08/2015	F	8	orina	*E. coli*	R(10)	S(30)	S(30)	S(30)		S(20)		S(22)	S(24)		R(10)			
497	CB-QCA 4250	14/08/2015	F	85	esputo		S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)		R(16)	S(4)		
498	CB-QCA 4251	14/08/2015	F	29	orina	*E. coli*	S(16)					R(10)		S(21)	TRM		R(10)			
499	CB-QCA 4252	14/08/2015	M	70	esputo		I(16)			R(64)	R(16)	S(4)	R(4)		R(160)					
500	CB-QCA 4253	14/08/2015	M	82	orina	*E. coli*	R(10)	S(27)	R(10)		S(29)	S(20)		S(20)	TRM		R(10)			
501	CB-QCA 4254	14/08/2015	F	66	orina	*E. coli*	S(21)		S(30)			R(10)		S(22)	TRM		R(10)			
502	CB-QCA 4255	14/08/2015	M	1	orina	*K. pneumoniae*	R(10)	S(24)	R(10)		S(25)	R(10)		R(15)	TRM		R(10)			
503	CB-QCA 4256	14/08/2015	M	64	orina	*E. coli*	R(10)	S(27)	R(10)		S(29)	S(21)		S(17)	TRM		R(10)		R(19)	
504	CB-QCA 4257	14/08/2015	F	11	orina	*E. coli*	R(32)	S(8)	R(64)		S(0,25)	R(16)		S(16)	R(320)		R(32)	R(64)		
505	CB-QCA 4258	14/08/2015	M	53	orina	*E. coli*	S(20)					S(22)		S(23)	TRM		R(10)			
506	CB-QCA 4259	14/08/2015	F	37	orina	*E. aerogenes*		S(4)	S(1)	S(1)	I(2)	S(1)	S(0,25)		S(20)			R(64)		
507	CB-QCA 4260	15/08/2015	F	66	orina	*E. coli*	S(18)		S(30)			S(22)		S(21)	TRM		R(10)			
508	CB-QCA 4261	15/08/2015	F	44	orina	*E. coli*	S(16)					S(20)		S(20)	TRM		R(10)			
509	CB-QCA 4262	15/08/2015	F	55	orina	*E. coli*			S(38)			S(25)		S(23)	TRM		S(23)			
510	CB-QCA 4263	14/08/2015	M	1	orina		R(10)	S(24)	R(10)		S(27)	R(10)		R(15)	TRM		R(10)			S(25)
511	CB-QCA 4264	16/08/2015	F	9	orina	*E. coli*	S(19)	TRM				S(22)		S(23)			R(10)			
512	CB-QCA 4265	16/08/2015	M	34	orina	*K. pneumoniae*	R(32)	R(128)	R(64)		S(0,25)	S(1)	R(4)	R(512)	R(320)		R(32)	R(64)		
513	CB-QCA 4266	16/08/2015	M	84	esputo	E. aerogenes		S(4)	S(1)	S(1)	S(1)	S(1)	S(0,25)		S(20)			R(64)		
514	CB-QCA 4267	17/08/2015	F	58	orina	*E. coli*	S(18)					S(20)		S(19)	S(20)		R(10)			
515	CB-QCA 4268	17/08/2015	M	82	orina	*E. coli*	R(10)	S(26)			S(27)	R(10)		S(17)	R(10)		R(10)			R(12)
516	CB-QCA 4269	17/08/2015	F	5	orina	*E. coli*						S(20)		R(10)	R(10)		S(19)			

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
517	CB-QCA 4270	17/08/2015	F	1	orina	*E. coli*						S(22)		S(20)	S(24)		S(21)			
518	CB-QCA 4271	17/08/2015	M	87	orina	*E. coli*	R(10)					S(21)		S(20)	R(10)		R(10)			
519	CB-QCA 4272	17/08/2015	F	85	orina	*E. coli*	R(10)	S(22)	R(10)		S(28)	R(10)		S(17)	R(10)		R(10)			S(22)
520	CB-QCA 4273	17/08/2015	M	10	orina	*E. coli*	S(2)					S(1)		S(16)	R(320)		S(2)	S(4)		
521	CB-QCA 4274	17/08/2015	M	75	Secreción traqueal	*K. oxytoca*	S(18)					S(22)	S(34)		S(26)		R(10)			
522	CB-QCA 4275	17/08/2015	F	7	orina	*E. coli*	S(18)	S(28)			S(29)	S(21)		S(18)			R(10)			
523	CB-QCA 4276	17/08/2015	M	33	Secreción traqueal	*P. aeruginosa*		S(32)		I(16)	S(2)	S(1)	I(2)						I(16)	
524	CB-QCA 4277	17/08/2015	F	79	orina	*E. coli*						S(20)		S(19)	S(26)		S(20)			
525	CB-QCA 4278	17/08/2015	M	92	Aspirado traqueal	*K. pneumoniae*	S(2)		S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)			S(4)		
526	CB-QCA 4279	18/08/2015	F	7	orina	*E. coli*	S(18)		R(20)		S(30)	S(22)		S(23)	R(10)		R(10)			S(27)
527	CB-QCA 4280	18/08/2015	F	17	orina	*E. coli*						S(23)		S(23)	S(29)		S(25)			
528	CB-QCA 4281	18/08/2015	M	34	orina	*K. pneumoniae*	R(32)	R(128)	R(64)	R(32)	S(0,25)	S(1)	R(4)	R(512)	R(320)		R(32)	R(64)		
529	CB-QCA 4282	18/08/2015	F	91	orina	*E. coli*						S(23)		S(22)	R(10)		S(19)			
530	CB-QCA 4283	18/08/2015	F	1	orina	*E. coli*	S(20)		R(11)		S(32)	S(25)		S(19)	R(10)		R(10)			
531	CB-QCA 4284	18/08/2015	F	61	orina	*E. coli*	S(24)					S(25)		S(22)	R(10)		R(10)			
532	CB-QCA 4285	19/08/2015	M	83	orina	*K. pneumoniae*	R(10)	S(21)	R(10)		S(27)	R(8)		S(19)	R(10)		R(10)			
533	CB-QCA 4286	19/08/2015	F	94	orina	*E. coli*	S(2)		S(1)		S(0,25)	S(1)	S(0,25)	S(16)	S(20)		S(4)	S(4)		
534	CB-QCA 4287	19/08/2015	M	86	orina	*E. coli*	R(32)	S(8)	R(64)		S(0,25)	R(16)	R(4)	R(128)	R(320)		R(32)	R(64)		
535	CB-QCA 4288	19/08/2015	M	53	Tejido cadera	*A. baumannii*	S(2)	S(4)			S(0,25)	S(4)	I(2)		S(20)				S(4)	
536	CB-QCA 4289	19/08/2015	M	94	orina	*P. aeruginosa*		S(33)			R(18)	S(20)							S(32)	
537	CB-QCA 4290	19/08/2015	F	66	orina	*E. coli*	R(32)	S(8)	R(64)	R(8)	S(0,25)	R(16)	R(4)	I(64)	S(20)					
538	CB-QCA 4291	19/08/2015	F	37	esputo	*E. aerogenes*		S(4)	S(1)	S(1)	I(2)	S(1)	S(0,25)		S(20)			R(64)		
539	CB-QCA 4292	19/08/2015	F	72	orina	*E. coli*	R(14)	S(26)				R(10)		S(22)	S(4)		R(10)			
540	CB-QCA 4293	19/08/2015	F	83	orina	*E. coli*	S(22)	S(31)	R(10)		S(34)	S(19)		S(25)	R(10)		R(10)			
541	CB-QCA 4294	19/08/2015	M	39	orina	*K. pneumoniae*	S(4)		S(1)		S(0,25)	S(1)	S(0,25)	I(64)	S(20)		R(32)	S(4)		
542	CB-QCA 4295	19/08/2015	F	72	orina	*E. coli*		S(8)	S(1)	S(1)	S(0,25)	S(1)	R(4)	S(32)	S(20)		R(32)	S(4)		
543	CB-QCA 4296	20/08/2015	M	4m	orina	*K. oxytoca*	R(15)		S(27)		S(25)	S(20)		S(20)	S(22)		R(6)			S(25)
544	CB-QCA 4297	20/08/2015	F	78	orina	*E. coli*	S(19)	S(27)	S(30)		S(28)	S(22)		R(6)	R(6)		R(10)			S(24)
545	CB-QCA 4298	20/08/2015	F	75	orina	*E. coli*	R(10)	S(24)	S(28)		S(27)	S(22)		S(21)	R(6)		R(6)			S(21)
546	CB-QCA 4299	20/08/2015	M	7	coloración Gram	*E. coli*	R(6)	S(26)	S(30)		S(29)	S(22)		S(21)	R(6)		R(6)			S(26)
547	CB-QCA 4300	20/08/2015	M	100	orina	P. aeruginosa		S(30)		S(28)	S(24)	S(18)	S(30)	R(6)					S(27)	
548	CB-QCA 4301	20/08/2015	M	53	Tejido blando	*M. morganii*	R(32)	S(4)	S(1)	S(1)		R(16)	I(2)		R(320)					
549	CB-QCA 4302	20/08/2015	M	53	Músculo		S(2)	S(4)			S(0,25)	S(4)	I(2)		S(20)				S(4)	
550	CB-QCA 4303	20/08/2015	M	53	Tejido oseo	*M. morganii*	R(32)	S(4)	S(1)	S(1)		R(16)	I(2)		R(320)					
551	CB-QCA 4304	20/08/2015	M	78	Secreción herida	*E.coli*	R(10)	S(20)	R(6)	R(10)	S(29)	S(22)	R(6)		R(6)		R(6)			S(24)
552	CB-QCA 4305	20/08/2015	M	6m	orina	*K. pneumoniae*														
553	CB-QCA 4306	20/08/2015	M	86	orina	*E. coli*	R(6)	I(20)	R(6)		S(27)	R(6)		S(25)	R(6)		R(0)			S(24)
554	CB-QCA 4307	21/08/2015	F	26	orina	*E. coli*	S(20)	S(32)	S(32)		S(30)	S(24)		S(20)	S(25)		R(6)			S(30)
555	CB-QCA 4308	21/08/2015	M	72	orina	*E. coli*	R(6)	S(26)	R(6)		S(30)	R(6)		S(20)	R(6)		R(6)			S(28)
556	CB-QCA 4309	21/08/2015	F	8	orina	*E. coli*	S(18)	S(28)	S(30)		S(30)	S(22)		S(20)	R(6)		R(10)			S(22)
557	CB-QCA 4310	21/08/2015	M	26	orina	*E. coli*	R(10)	S(30)	S(23)		S(30)	S(20)		S(22)	S(18)		R(6)			S(26)
558	CB-QCA 4311	21/08/2015	F	3	orina	*E. coli*	S(26)	S(30)	S(30)		S(30)	S(28)		S(20)	S(30)		S(25)			S(28)
559	CB-QCA 4312	21/08/2015	F	77	orina	*E. coli*	R(32)	S(4)	S(1)		S(0,25)	R(16)	R(4)	S(16)	S(20)					
560	CB-QCA 4313	21/08/2015	F	27	orina	*E. coli*	S16)	S(28)	S(26)		S(28)	S(20)		R(10)	S(23)		R(8)			S(26)
561	CB-QCA 4314	21/08/2015	F	84	orina	*E. coli*	S(20)	S(30)	S(30)		S(30)	S(26)		S(20)	R(6)		R(10)			S(30)
562	CB-QCA 4315	21/08/2015	F	4	orina	*E. coli*	R(32)	R(128)	S(1)		S(0,25)	R(16)		S(16)	R(320)			S(4)		
563	CB-QCA 4316	20/08/2015	M	83	sangre	*E. coli*	S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)			S(4)		
564	CB-QCA 4317	20/08/2015	M	83	sangre	*E. coli*	S(2)	S(4)	S(1)	S(1)	S(0,25)	S(1)	S(0,25)		S(20)			S(4)		
565	CB-QCA 4318	20/08/2015	F	8m	orina	*E. coli*	I(16)		S(1)		S(0,25)	S(1)		S(32)	S(20)		R(32)			

Anexo 1. Perfil fenotípico de susceptibilidad a antibióticos de Enterobacterias (continuación)

No.	CÓDIGO PUCE	FECHA CULTIVO	SEXO	EDAD	MUESTRA	Identificación PUCE	SAM	TZP	CRO	FEP	IPM	GEN	CIP	NIT	SXT	ETP	AMP	CFZ	CAZ	FOX
566	CB-QCA 4319	21/08/2015	F	8	orina	*E. coli*	S(25)	S(38)	S(30)		S(30)	S(20)		S(24)	S(30)		S(20)			
567	CB-QCA 4320	22/08/2015	M	73	orina	*E. coli*	R(32)	S(8)	R(64)	R(4)	S(0,25)	R(16)	R(4)	S(16)	R(30)	S(0,5)				
568	CB-QCA 4321	23/08/2015	M	85	orina	*E. coli*														
569	CB-QCA 4322	23/08/2015	M	59	orina	*E. coli*														
570	CB-QCA 4323	23/08/2015	F	4	orina	*E. coli*														
571	CB-QCA 4324	23/08/2015	M	55	Secreción traqueal															
572	CB-QCA 4325	23/08/2015	F	41	orina	*E. coli*														

Los valores numéricos determinan el MIC del antibiótico dado por el sistema automático de identificación VITEK2®, a excepción de las celdas en gris que determinan el diámetro del halo de inhibición obtenido por antibiograma.

PARA GRADOS ACADEMICOS DE LICENCIADOS (TERCER NIVEL)

PONTIFICIA UNIVERSIDAD CATOLICA DEL ECUADOR

DECLARACIÓN Y AUTORIZACIÓN

Yo, María Fernanda Cadena Vizuete, C.I. 1718533670 autora del trabajo de graduación titulado: “Caracterización de Genes de Resistencia en Enterobacterias Aisladas de Bacteriemias”, previa a la obtención del grado académico de **LICENCIADA EN CIENCIAS BIOLOGICAS** en la Facultad de **Ciencias Exactas y Naturales**:

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Quito, 12 de julio del 2016

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